INNOVATION, INTENTION, AND INEQUITIES:

Addressing the Potential Social Impacts of Innovation Districts in Post-Industrial Waterfront Zones Upon Working Class and Minority Neighborhoods

A Thesis Presented to the Faculty of Architecture, Planning, and Preservation
COLUMBIA UNIVERSITY

In Partial Fulfillment of the Requirements for the Degree
Master of Science in Urban Planning

By
Stephanie Yee-Kay Chan
May 2018

Advisor Dr. Hiba Bou Akar
Reader: Moira O'Neill

ABSTRACT

This paper analyzes how the development of innovation districts in industrial waterfront zones affects the social vulnerabilities of working class, minority and immigrant neighborhoods towards gentrification. Research uses Sunset Park, Brooklyn as a neighborhood case study and incorporates a mixed-methodology design through archival research and qualitative interviews. This study first defines the pre-existing risks and relationship between industrial use zoning and neighborhood social vulnerabilities through archival research of neighborhood history and recent urban developments. Qualitative data is generated through interviews of neighborhood residents, community activist organizations and non-profits of Sunset Park, Brooklyn, tenants of Industry City, advocates of Innovation Districts, and urban planners to understand the potential, social impacts of innovation districts and their adaptive re-use schemes upon working class neighborhoods.

KEYWORDS

Innovation districts, zoning, displacement, land use, community, social vulnerability.

Cover photo: Rendering of Industry City development (Source: Industry City)

ACKNOWLEDGEMENTS

I would like to thank my advisor, Hiba Bou Akar, for guiding me through the research process and providing the inspiration for my studies and the methods in which the field of urban planning can positively contribute to the building of more socially equitable neighborhoods and communities. Thank you to Moira O'Neill Hutson who served as my reader and has been an enthusiastic and supportive mentor in the field of community advocacy work. I am honored to have worked and learned from their passion and commitment towards social justice of which has tremendously impacted my vision for this thesis.

I would also like to extend my gratitude to the neighborhood individuals and organizations that I interviewed for this work and whom provided invaluable insight about community changes and policy recommendations. Thank you to the faculty and my professors here at Columbia University who have provided me with the many travel and research opportunities to examine equity in urban planning and migration; Jose Luis Vallejo and Belinda Tato and the Studio-X Rio group, Alejandro De Castro Mazarro, Kian Tajbakhsh, and Harris Beider at the School of International and Public Affairs (SIPA). Further thanks to the Urban Community Health Equity Lab at GSAPP, Todd Sigaty of SHoP Architects P.C., Blaine Bookey of the Center for Gender and Refugee Studies (CGRS) at UC Hastings, Ebru Gencer at the Center for Urban Disaster Risk Reduction and Resilience (CUDRR+R), the Center for an Urban Future (CUF), Eurasia Group, and my Place and Displacement teammates at Ideation for welcoming me with open arms and supporting my academic journey through the years. All my love goes to my friends and colleagues who have been extremely supportive of me through this research process; their shared joy and encouragement are infectious and I am grateful to have been the beneficiary of their kindness and presence.

Finally, thank you to my parents Mabel and Tom, who are a true testament of immigrant resiliency and courage. I am forever grateful for the sacrifices they have made for me in Hong Kong and in the San Francisco Bay Area. Their compassion towards assisting and providing services to immigrant groups and vulnerable populations has shaped my understanding of the importance of community dialogue in urban development processes and has cemented empathy in all aspects of my professional career.

My aim for this research is to open further dialogue about the current, if not fashionable, urban trend of innovation district development and their potential impacts upon neighborhoods that have already experienced histories of migration, segregation, and disinvestment. My hope is that this work can contribute to a more nuanced, sociological understanding of these contemporary spaces by encouraging a review of innovation district impacts upon social equity within pre-existing, minority neighborhoods.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

LIST OF ABBREVIATIONS

Business Improvement District (BID)
Brooklyn Chinese-American Association (BCA)
City Environmental Quality Review (CEQR)
District Under the Manhattan Bridge Overpass (DUMBO)
English for Speakers of Other Languages (ESOL)
Environmental Impact Statement (EIS)
Floor Area Ratio (FAR)
Industrial Business Zone (IBZ)
Information Technology (IT)
Inquilinos Boricuas en Acción (IBA)
Locally Undesireable Land Uses (LULUs)
Manufacturing and industrial district zoning (M zones)
Massachusetts Institute of Technology (MIT)
New York City Economic Development Corporation (NYCEDC)
Occupational Safety and Health Administration (OSHA)
Residential district zoning (R zones)
Science, Technology, Engineering, and Math (STEM)
Technology, Talent, and Tolerance (3Ts)

I. INTRODUCTION

The emergence of innovation districts is a relatively new phenomenon following the growth of information technology (IT) companies and the subsequent affordability and availability of next-generation technologies. The development trend of innovation districts serve a number of purposes including but not limited to: the historic preservation and adaptive re-use of vacant properties; providing spaces for companies, entrepreneurs, students, and investors to work together in advancing Science, Technology, Engineering, and Math (STEM) research; offering educational business development and employment opportunities to the community; functioning as a new type of buffer zone in waterfront resiliency efforts; and creating mixed-use, sustainable, and transit-oriented neighborhoods that prevent extensive sprawl and environmental degradation.

Nonetheless, innovation districts in the United States often appear in older, industrial areas where blue-collar jobs traditionally dominated in manufacturing. These industrial areas, including waterfront industrial zones, are exceedingly home to low-income and minority populations due to the area's low-cost housing and proximity to work as these communities traditionally provided labor for these industries. Thus, there exists a deep contrast between the development language of innovation districts that promises educational STEM workforce development, affordable housing, and sustainability, and their operation within the reality of the low-income, minority neighborhoods that have already experienced histories of migration, segregation, and disinvestment. **How do innovation districts affect neighborhoods that continue to face socio-economic hardships of language barriers and low educational attainment? And do attributes of innovation districts collectively contribute to subsequent neighborhood gentrification? How does the future of innovation and technology affect immigrant communities as an industry that both attracts international highly skilled immigrant workers but has also historically exploited the labor of low-skilled minority workers in the United States?**

This study focuses on "Industry City," a 6 million square-foot, 16-building innovation district situated on the waterfront of Sunset Park, Brooklyn. Formerly known as the Bush Terminal, Industry City was one of the largest cargo shipping sites in the world until its period of decline and underutilization in the 1980s. Between 2009 and 2013, the building opened the first of its redesigned offices for lease to a mix of businesses including artisans, garment manufacturing, warehousing and high-technology production firms. Today, Industry City is a popular destination for New York City tourists and visitors seeking entertainment and shopping. This research details the impacts of Industry City on the surrounding Sunset Park neighborhood that has historically been home to low-income, Latino-Asian immigrant communities.

Figure 1.1: Early depiction of the Bush Terminal/Industry City in 1914. (Source: Wikipedia Commons)

II. RESEARCH QUESTION

My work illustrates the ways in which innovation districts and subsequent land use changes and re-zoning efforts can positively and negatively affect the neighborhoods that they are invested within.

1) What are the potential impacts of innovation districts upon lower-income and immigrant neighborhoods?

2) Were local communities offered participatory roles in planning processes and are innovation district spaces inclusive of the community in their events and fit-out of tenants?

3) Which groups benefit from the development of innovation districts?

Through the lens of environmental sustainability, social equity, and economic sustainability, this study aims to advise and inform the impacts of planning and zoning decisions to public officials, urban planners, and community members, in order to advocate for more socially equitable and sustainable solutions for innovation districts.

III. METHODS AND LIMITATIONS

Archival Research

Archival research begins with the history of innovation districts throughout the United States and discriminatory labor practices as it relates to blue-collar workers through the 1900s. Archival research also illustrates the colorful history of the Sunset Park neighborhood and its historical relationship to factory labor on its industrial waterfront. Research then analyzes the impact of industrial zoning decisions made on part of planning officials and the settling of low-income, minority and immigrant neighborhoods in the proximity of manufacturing and industrial districts.

Qualitative Research

Qualitative research through site-visits and phone interviews were conducted to better understand the subjective impacts of innovation district developments. Qualitative analysis analyzed built environment characteristics of the Sunset Park neighborhood and aimed to find apparent or non-apparent differences in goals between the Sunset Park community members and advocates of Industry City through interviews with tenants of Industry City, community–based and immigrant-based organizations of the Sunset Park neighborhood, urban planners, and community residents. The contacted, undisclosed individuals and organizations for this report are listed in Appendix A: List of Contacted Interviews.

Study Limitations

Limitations to this study involved the difficulty of reporting on an area and subject that is still developing with regards to current rezoning efforts and the opening of new businesses and companies. The resulting, socio-economic effects of Industry City are difficult to quantify as the development's long-term or direct effects still have yet to be seen. However, supplemental interviews and qualitative research aims to provide further context to these limitations.

IV. IMPLICATIONS OF THE PROJECT TO PLANNING AND URBAN ANALYSIS

In analyzing the potential impacts of innovation districts upon working class communities, this research can better inform city officials the consequences of their investments in the creation of industrial waterfront innovation districts, thereby providing a more nuanced understanding of existing development processes to include more participatory processes for all communities that are involved or impacted. My work also analyzes the historical and contemporary impacts of heavy industrial zoned areas and their subsequent zoning changes to light-industrial zoning (upzoning) to seek evidence of whether the social vulnerabilities of surrounding, working class neighborhoods and communities of color are heightened in light of upzoning.

In a stance against gentrification, this work places heavy emphasis on the labor and perspectives of community members by means of interviews with residents, non-profit organizations, activists, and intellectual artists who identify with 'creative class' to provide social context beyond the primary, economically competitive goals that are typical of innovation district investments. This study aims to view innovation districts as not just a zoned area for use by an economically inclined elite or by governmental actors for profit making or city branding purposes, but rather as spaces that can extend its influence beyond project borders into its surrounding community whether through positive or negative means.

V. LITERATURE REVIEW

Innovation District Development Trends

Innovation districts are dense, mixed-use areas that facilitate the building of cultural and social capital through the agglomeration and exchange of creative, social interactions amongst intellectual groups. At its core, innovation districts are re-purposed spaces to serve creative professionals, artisanal tenants, and research in technology, design and science. They espouse a live-play-work concept with all amenities provided in a single area. Innovation districts can be found throughout the United States and are often located in older industrial areas, downtowns, or next to anchor institutions such as universities.

Since 1890, economic and urban theorists Alfred Marshall and Michael Porter have been credited with the early, primary studies of economic agglomeration and productivity from geographic clusterings of social capital. More recently, urbanist Richard Florida extended upon these concepts in his "creative capital theory" that implies "creative people are the driving force in regional and economic growth" of includes, "scientists and engineers, university professors, poets and novelists, artists, entertainers, actors, designers, and architects, as well as the 'thought leadership' of modern society: nonfiction writers, editors, cultural figures, think-tank re- searchers, analysts, and other opinion-makers" (Florida, 2004). Although he clarifies that all humans are inherently creative and potentially members of the creative class, he distinguishes that only roughly 30 percent of the workforce are paid for their creative work and are categorized as such, thus introducing a new labor class into today's modern workforce.

Industry City 2017 (Source: Industry City)

The emergence of this new creative class has left a profound impact on the urban landscape through a new economic geography that clusters creative people in culturally recognized cities that exhibit the 3Ts of "technology, talent, and tolerance" (Florida, 2003). In the last 50 years, creative cities that exhibit elements of the 3Ts have become home to most of the nation's newer innovation districts, the latter of which have transitioned from first generation models of car-centric, urban sprawl such as Silicon Valley, to dense mixed-use districts that include housing, public transit, office and retail (for examples of American innovation districts, see Noteworthy United States Case Studies of Innovation Districts on page 22). Despite its strong foothold in American real estate and technology development, innovation districts can also be found all over the world as well, most notably Porto Maravilha in Rio de Janeiro Brazil; the 22@ Project in Barcelona, Spain; East London Tech City in London, United Kingdom; Hauptstadt in Berlin, Germany; and in Montreal, Toronto, Medellin, Seoul, Stockholm and more.

Minority Employees and the Historical Underpinnings for the Hiring of Immigrants in United States' Industrial Economies

The last of the T's, "Tolerance" is defined by Florida as, "openness, inclusiveness, and diversity to all ethnicities, races, and walks of life," and is a critical component to productive cities. Florida argues that tolerant cities attract people of all backgrounds whom in turn power more innovation and growth. In testing the openness and relationship of high-tech regions to immigration and diversity on a scale dubbed the Melting Pot Index, University of California at Berkeley researcher AnnaLee Saxenian found that although immigration is associated with the United States' modern high-tech industry, it is however not strongly associated with innovation as measured as rates of patenting via the Innovation Index, nor job growth (Saxenian, 1999) (Florida, 2003). Despite this, the role of immigration in the United States' technology and innovative industries is not to be dismissed. Immigrant and migrant labor has been the ultimate catalyst for the proliferation of blue-collar, industrial, manufacturing and low-income labor markets that in turn, sparked the fundamental development of the nation's industrial economies of which later gave means of production for innovative technologies in the United States.

What is the relationship then, between the historically high employment of minorities in blue-collar, industrial, manufacturing labor and their affiliation with low-income labor markets? The traditional, explicative labor market hypothesis posits a "dual" labor economy of the two sectors of "high-wage" and "low-income," however this explanation does little to encapsulate the realities of a segmented labor economy with multiple facets. This segmented labor economic theory gives name to what many refer to today as the distinct labor worker categories of white-collar positions (also referred to as "primary industries"), blue-collar positions and service positions (both referred to as part of a "secondary" industry), and informal economies ("pay-under-the-table" work). The segmented labor economic theory provides a deeper understanding of labor markets by allowing for a more nuanced discussion of the role of race, ethnicity and migration in employer and employee market choices.

A new labor structure between immigrants of the Global South and industrial employers was initiated during the 1960s as a direct result of rapid globalization and the corporate need for cheap labor. Yet, critical race theorists have also noted the high levels of unemployment within Black ghettos of central cities during this same era and the few years preceding the Civil Rights Act of 1964. Although the Great Migration from southern to northern cities in the United States occurred within the fifty years prior on account of the availability of industrial employment and emancipation, by the 1960s a shift in industrial employment towards the hiring of immigrant labor matched, or exceeded the hiring of Black workers. The shift in hiring practices was a direct result of both racial prejudice as well as new international market forces that

welcomed the prospect of paying cheaper workforce wages to immigrant hires rather than domestic employees.

Employers during this era emphasized, "the unemployability of the central city population (predominately Black workers), which was very frequently traced to the growing technical sophistication of employment opportunities … the lagging educational attainment," and additional complaints "of labor shortage(s); high turnover rates among ghetto workers; the very prevalent belief that anybody who really wanted to could get a job; and the fact that urban discontent seemed, if anything, to be positively correlated with education and industrial sophistication" (Piore, 1973). Yet, these complaints and comments fail to address the perilous and repressive working conditions of these secondary industries for Black workers that influenced high turnover rates and employers' belief in 'urban discontent'. Additional attributes associated with secondary industrial labor that remain to this day include low wages, poor working conditions, instability and insecurity of employment, lack of opportunity for advancement, and negative, personal (as opposed to institutional) relationships between the supervisor and subordinates (Piore, 1973). Racial animosities, stereotyping, and institutionalized racism through public policy and education have additionally kept Black workers confined to this secondary industry and prohibited career advancement to more secured positions within the primary sector during this time.

The coinciding employment of immigrants from the global south in the secondary, industrial sector at this time further emphasizes these pre-existing prejudices. Employed immigrants were largely uneducated, proving false the need for "education and industrial sophistication" that employers called for as a minimum standard amongst Black workers. In addition, the employment of immigrants despite the high rates of Black unemployment during this time confirmed "employer asser[tions] about labor shortage… [which is] attributed to employer prejudice and bigotry" (Piore, 1973). In other words, racial animosities amongst employers lowered hiring standards for immigrants coming from the global South in comparison to Black workers for the purpose of achieving cheaper wages in manufacturing, apparel and other blue-collar industries.

Elements of these historical prejudices against minority employees remain today in the American labor economy. The practice of labor discrimination and infringement of labor and immigrant law on part of globalizations continues to equate immigrant labor as synonymous with cheap labor while maintaining racial status quo for positioning minority workers within one sector and without further opportunities for career advancement. In studying innovation districts and its claims towards tolerant environments, it is important to note the pre-existing market stratifications and prejudices against all workers of color that persists during moments of rapid globalization and industrialization. Minority and immigrant involvement in the secondary industries of manufacturing and industrial labor are not "voluntary," but rather a result of historical and social processes. Likewise, environmental injustices that have sequestered the housing of low-income communities of color near manufacturing districts are also a result of these same pre-existing social conditions. Innovation districts may aim to develop in tolerant cities, yet in reality are still questionably developing in communities that continue to experience socio-economic disinvestments while re-purposing century-old industrial buildings that provided traditional blue-collar work. This research thus further explores the development of innovation districts in these same post-industrial spaces with regards to their potential impact on the low-income, minority communities that they are often located within or near.

Local governments are particularly keen on investing in these block-wide innovation districts as this development type can prevent urban sprawl through adaptive re-use of underutilized buildings while spurring sustainable economic development. Proponents of the Sunset Park Waterfront Vision Plan serves as an example of innovation district initiatives across the nation in espousing similar "green" sustainable vocabulary (see section The Sunset Park Waterfront Vision Plan 2020 on page 35) that advocates for a "modern industrial waterfront that is an environmentally sustainable resource" with "renewable energy generation [and] on-site storm water treatment" that "enables sustainable industrial growth" (Sunset Park Working Group, 2009). In other words, these plans advocate for the adaptive re-use of empty lots and vacant buildings while increasing density and walkability of areas, a tactic that is gaining popularity across the United States as a smart growth method (Oregon State Government, 2010). In addition, the development of innovation districts double as a waterfront resiliency solution in the scenario of sea level rise, while still being able to contribute to revenue generating activities.

The goals of increasing density and walkability at many times may require an area upzoning of manufacturing districts in order to allow for additional commercial, if not possibly residential use. Existing arguments show that not all re-zoning policies are neutral in its outcomes. A Furman Center study on rezoning trends finds that "upzoned lots were located in census tracts with a higher proportion of non-white residents" and that upzoning tends to occur in mostly low-income neighborhoods and leads to more foot traffic, more vehicle congestion, more housing density and therefore higher housing costs and subsequent gentrification (Furman Center, 2010).

Thus, the question returns to whether upzoning tactics that promote density, sustainability measures, and retail, in general reflect the "priorities of white, upper middle class constituencies that dominate the environmental movement" of prioritizes "intergenerational equity" rather than current problems of neighborhood inequality and the need for re-distributional, socio-economic policies (Schrock et al, 2015). It would be a falsehood to claim that the priorities of minority neighborhoods do not align with modern environmental movements, when many cases of environmental racism continues to exist that have pushed for minority activist coalitions that advocate for decent housing and safe, non-polluted schools (Athanassakis, 2017). Yet, communities of color claim that, "they seldom had time for the environmental movement as defined by whites… they had more pressing issues of survival to contend with in their neighborhoods" that experience first-hand affects of historical, environmental racism (Visgilio and Whitelaw, 2003).

In viewing the historical placement of Locally Undesireable Land Uses (LULUs) next to low-income communities of color, a research study by urbanist Vicki Been ascertains that LULUs are not disproportionately placed in minority neighborhoods through the siting process itself, rather that neighborhoods surrounding LULUs do "become poorer and become home to a greater percentage of people of color over the years as they "come to the nuisance (move to neighborhoods that host LULUs)" as a result of a multitude of institutional factors such as poverty, housing discrimination and place-based affordability, the location of work, transportation means, and other public services (Been, 1994). In other words, a hazardous waste facility or an industrial zoned area would not be sited in a low-income locale only because there are an above average proportion of minority residents nearby. Instead, industries tend to seek less densely populated areas that could ideally supply affordable, industrial labor of which in return attract blue-collar workers, many of who identify as immigrant and minority populations due to the area's low cost housing, shortened commute, and the availability of industrial jobs that may host less stringent standards for education and legal status.

Thus, if environmentally hazardous sites provide the impetus for cheap housing, in light of modern sustainability initiatives, planners must ask, "Does greening whiten? Does greening richen? Does greening raise rents and housing prices?" (García-Lamarca, 2017). Multiple environmental and urban scholars have termed "green gentrification" or "environmental gentrification" as seemingly, politically neutral planning with long-term community benefits when in fact, environmental and infrastructural makeovers have the potential to raise rates of neighborhood gentrification within minority neighborhoods.

Innovation Districts are often touted as progressive, sustainable solutions for the remedying and re-purposing of industrial areas that have traditionally held lower standards for environmental sustainability and safety. However this paper argues that these corporate initiatives for sustainable solutions come too late as disadvantaged, poor and minority communities throughout the United States have historically borne a disproportionate share of society's environmental risks. As this research will clarify in later chapters, innovation districts as a sustainability measure do not necessarily alleviate neighborhood health risks traditionally associated with industrial zoning, but rather has the potential of increasing social vulnerabilities of these same minority communities through further gentrification.

Noteworthy United States Case Studies of Innovation Districts

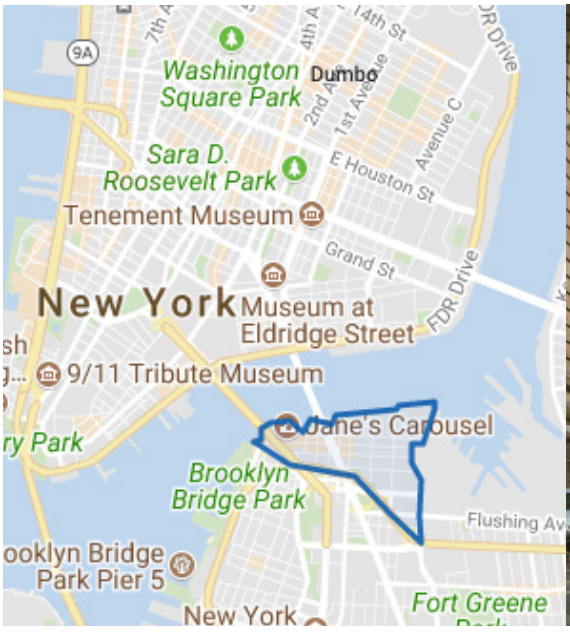
To provide a background of innovation district and waterfront post-industrial development in the United States, this paper examines the four case studies of North American innovation districts located in North Brooklyn, New York City; Cambridge, Massachusetts; Boston, Massachusetts; and Miami, Florida. These studies give context of the variations of innovation district development, industrial waterfront neighborhood changes and the studied effects of gentrification towards their surrounding communities.

> "It would be a falsehood to claim that the priorities of minority neighborhoods do not align with modern environmental movements, when many cases of environmental racism continues to exist that have pushed for minority activist coalitions that advocate for decent housing and safe, non-polluted schools (Athanassakis, 2017)."

North Brooklyn, District Under the Manhattan Bridge Overpass (DUMBO)

The North Brooklyn's District Under the Manhattan Bridge Overpass (DUMBO) neighborhood is located directly north of the research site of Sunset Park. DUMBO provides its commercial offices an expansive view of the Manhattan skyline and is home to a variety of boutiques, cafes, art galleries and public spaces with weekly programming events. A waterfront, industrial landscape that was traditionally dotted with warehouses and factory businesses – including but not limited to printing and publishing, footwear, and machine parts, was by the 1920s, directly affected by deindustrialization and stagnated as a wasteland. At this time, low-income artists and New York City's marginalized gay community temporarily, legitimately and illegitimately occupied these underutilized, industrial facilities. Between the 1970s and 1980s, early developers saw the potential of a new waterfront neighborhood fitted-out with retail amenities and entertainment, cultural and art institutions. These developers purchased several properties in DUMBO and originally planned to convert the brick overlaid, industrial buildings into residential properties, however this decision was stalled and instead reverted to the modern trend of "raw" commercial loft spaces for tech startups and creative class tenants through the 2000s.

Although the area was not exclusively a multi-cultural, immigrant enclave similar to many other neighborhoods of the city, DUMBO nonetheless experienced gentrification on the basis of the forced displacement of low-income artists and the marginalized gay community as properties are now being sold at market-value and are exclusively geared towards attracting technology firms, media companies and higher income residential elites. The area still boasts an artistic flair with its art galleries and public programming, yet these art initiatives differ from traditional and more bohemian art and crafts skills by the previous generation of artists. Along with Downtown Brooklyn (Atlantic Yards) and the Brooklyn Navy Yard (South Brooklyn and south of Sunset Park), DUMBO completes the triad of modern, innovative spaces coined the Brooklyn Tech Triangle.



Map 5.1: (Left) Perimeters of DUMBO neighborhood in Brooklyn. (Source: www.compass.com)
Figure 5.1: (Right) Post-industrial DUMBO neighborhood with new storefronts. (Source: www.compass.com)

Figure 5.2: Kendall Square development 2017 versus 1981. (Source: www.thenaf.org)

Cambridge and Boston, Massachusetts boast two separate innovation districts, the first at Kendall Square that grew alongside the Massachusetts Institute of Technology (MIT) campus at the mouth of the Charles River, and the second more recent development located at Boston's waterfront Seaport District. Likewise to DUMBO and Sunset Park, Kendall Square was also affected by deindustrialization of the 1970s and reduced to swaths of land covered with "a mass of old factories, abandoned buildings, vacant lots, and chain link fences" (Karagianis, 2015). After years of collaboration between MIT and the Cambridge Planning Board, Kendall Square was rezoned in 2013 to allow for the emphasizing of academic and commercial development, the latter mainly catering to big tech and big pharma companies over the outfitting of small innovative firms, artist workshops, and residential housing. These large name companies have closed the gap for mom-and-pop bio-tech firms, exhibiting small-scale effects of industry gentrification with the pricing out of firms in the occupation of innovation district retail and office space.

Despite the differences in the type and size of incoming businesses, the case study of Kendall Square is notably similar to Sunset Park in that the first generation of immigrant workers were European, followed by Puerto Rican migrants who provided workforce labor to Boston's industrial sector (see Chapter VII. Background History and Built Environment Analysis of the Sunset Park, Brooklyn on page 41). By the 1960s, Parcel 19 in the South End, an area of Boston directly across the river from Kendall Square, was home to approximately 2,000 Puerto Ricans that resisted public efforts for urban renewal in their communities under the still-existing organization Inquilinos Boricuas en Acción (IBA). Their actions were successful in implementing public housing, however it is difficult to gauge the effects of the 2013 Kendall Square development upon the Puerto Rican community and other minority communities in general due to the spatial geography of Kendall Square being situated near the MIT campus, thereby skewing income and racial demographics with regards to the campus' student populations. By the early 2010s, Boston experienced an out-migration of Puerto Rican residents to the surrounding states of New York, Florida, New Jersey and Pennsylvania.

Figure 5.3: One Kendall Square showing renovated industrial buildings and public space.
(Source: Kendall Square Association)

South Boston Waterfront Development

Boston's newest innovation district located near Kendall Square lies between the historic Boston Harbor and the Logan International Airport. The area contains the largest tract of underdeveloped land in South Boston: a 1,000 acre plot that was dedicated in 2010 to innovation branding and the housing of innovation companies by Mayor Thomas M. Menino. Although a portion of the port area is still maintained for traditional maritime and industrial uses, a majority of the remaining historical, brick-and-beam buildings have been converted for technology giants and bio-medical firms with ample space made available for the construction of state-of-the-art office spaces, apartments, and mixed-use facilities that promote pedestrian-friendly streets and walkable distances between living spaces, work and entertainment. According to the Boston Redevelopment Authority, more than 2,700 residential units and 1.3 million square feet of office space have been in construction as of 2016 (Prevost, 2016).

The giant redevelopment of South Boston as an innovation district is unique in its inclusion of a multitude of residential opportunities, mostly of market rate housing with some affordable units. In comparison to Sunset Park that boasts many of the same goals of sustainability, walkability and mixed-use intentions, zoning regulations for manufacturing and industrial areas in New York City prohibits residential construction in upzoning. In addition, South Boston had the fortune of beginning with a virtually barren landscape – a real estate tabula rasa that could be easily parceled and sold for development at a high cost considering its prime location at the epicenter of multiple transportation networks into the city and for its waterfront views.

Although the innovation district itself benefits the whole city through tax revenues and expanded commercial activities, and the project itself did not conclude in widespread displacement of residents or gentrification as there were no large communities in waterfront area to begin with, the luxury condominiums and large, entrepreneurial firms do cater to a newly arrived upper-middle, educated class rather than affordable housing provisions and employment opportunities for surrounding community residents thereby leaving long-term cultural impacts upon the area.

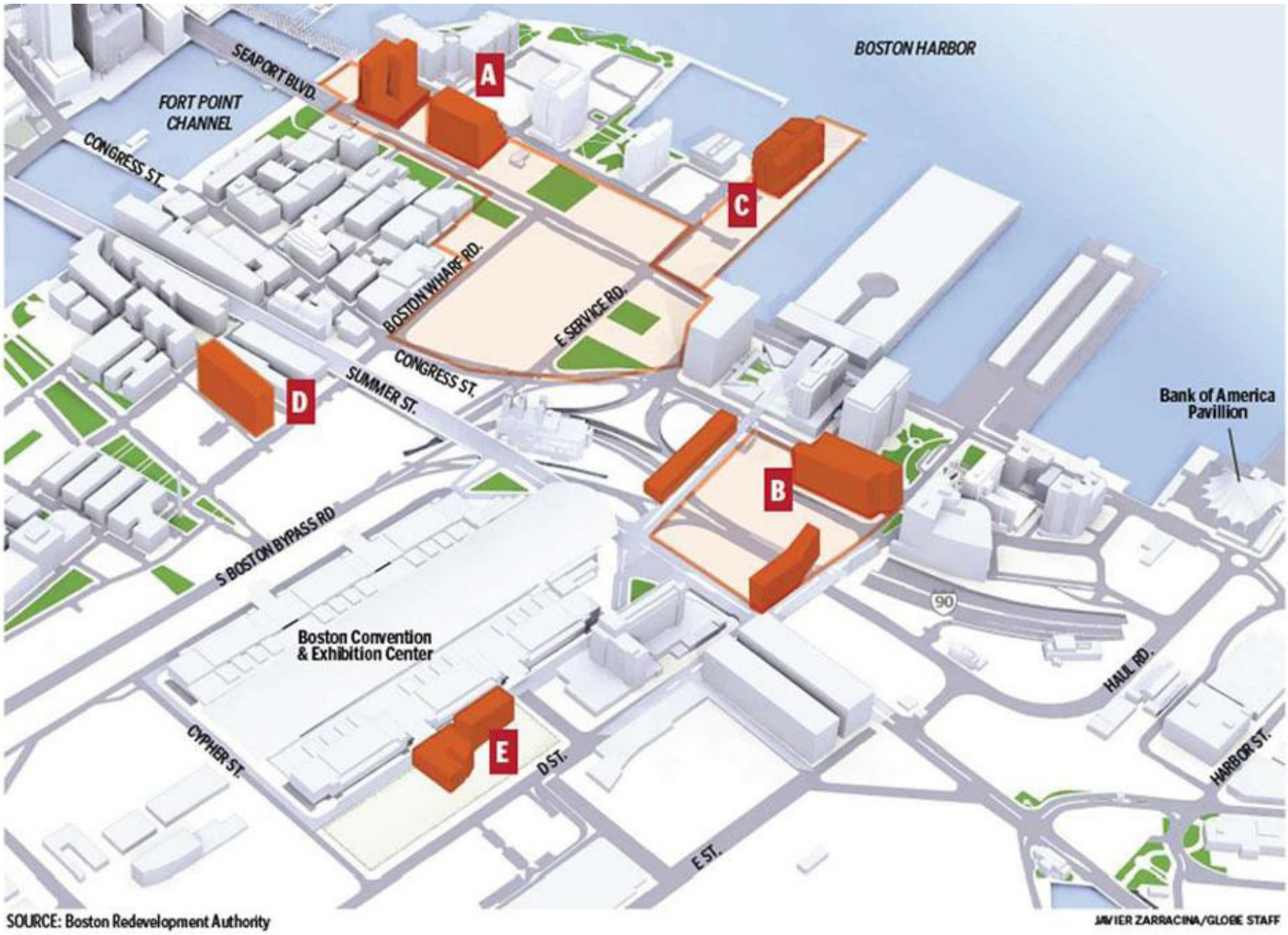


Figure 5.4: South Boston Waterfront innovation district's proposed retail and residential units. (Source: Boston Redevelopment Authority)

Miami, Florida: Magic City Innovation District

Lastly, this paper examines the up-and-coming Magic City Innovation District in Miami, Florida of which is experiencing massive push-back from its surrounding immigrant communities. Co-founded by a Silicon Valley investor and a Miami real estate developer, Magic City is a planned, 15-acre mixed-use, walkable campus and neighborhood with a secured tenant list of well-known artists and restaurants to fill its new art galleries, entertainment centers, co-working units and offices. Magic City aims to be the ultimate, geographical gateway between North American and Latin American technology companies.

However, Magic City has also planned to be placed within the historical heart of the Haitian diaspora, a community that is already a thriving cultural and arts district with its own galleries and events. Throughout the 1980s and 1990s, Little Haiti saw the development of immigrant-owned businesses, cultural marketplaces, and the installation of the neighborhood's unique architecture modeled after the Port-Au-Prince. The Little Haiti Cultural Center opened in 2009, which was soon followed by an unprecedented boom in new artist residents into the neighborhood that some long-term residents worried was the catalyst for gentrification. Soon after 2009, plans for Magic City soon followed, based upon developers' wish to market the pre-existing vibrant, cultural neighborhood.

Although Little Haiti was never zoned for industrial use, the waterfront district is still a predominately a low-income, working class neighborhood that, "isn't stable enough to create its own middle-class wealth" and where only 26% of the homes are owner occupied residences (Pierre, 2015). Demographics show that the 73% of residents identify as Black and 20% of residents identify as Hispanic with only 5% of residents identify as White. It is unforeseeable how such drastic of a development project such as Magic City could properly and culturally integrate into the daily life of a neighborhood that already exhibits its own unique strengths and characteristics, much less positively affect renter residents who would unquestionably be out-priced from their homes.

Figure 5.5: Rendering of Magic City Innovation District in Miami, Florida. (Source: Arquitectonica)

Figures 5.6: Little Haiti, Miami storefront architecture reminiscent of Port-Au-Prince. (
Source: Happycurio / Miami and Beaches)

Case Study Conclusions

What can innovation district developers and community members, and specifically the project of Sunset Park learn about these case studies? First, commonalities exist between much of the nation's major innovation districts in that they are mostly developments located in areas and that have been deemed underutilized and under-occupied, a bonus for developers who do not have to answer to claims of displacement. Second, the businesses and companies that innovation districts bring to the neighborhood differ in both scale and type which in turn sets the tone for new neighborhood consumer cultures and residences. While some innovation districts such as Industry City market towards small-scale artistry shops and craftsmen businesses, others similar to DUMBO and South Boston herald biotech companies and research facilities that are geographically, politically and economically tied to university campuses. Third, in many instances, it is difficult to say gentrification has ultimately occurred when these underutilized industrial areas were unoccupied in the first place. Yet it can be argued that gentrification still persists in longevity through the attracting of educated, upper-middle class residents and consumers with little initial spending on furthering affordable housing provisions and employment opportunities for the original, low-income residents of the city. In addition, as exemplified by the Magic City development in Little Haiti, Miami and similar to proponents of Sunset Park, innovation district developers seem to latch onto the surrounding community's "vibrant" and "colorful" culture as one of the primary reasons of choosing these specified locales for construction, however as a result tend to other, mystify, orientalize, and commoditize cultures for real estate marketing purposes. These communities already experience vast social and economic disinvestment prior to the interest of innovation district developers, evidenced by the prevalence of low-income and renter-occupied households. Lastly, innovation districts across the board have faced community pushback by non-profits, community organizers, small-scale businesses and more of who fear lasting effects of gentrification. These perspectives are invaluable to the study of innovation district developments throughout the nation.

At the turn of the twentieth century, industrial labor power in maritime, construction and manufacturing in New York City largely employed European immigrants in a low wage capacity. In the 1960s, a new labor structure between immigrants of the Global South and these industries manifested when the combination of technological innovations, internationalization of global capital and prevalence of cheap labor abroad facilitated corporate downsizing and transnational corporations, provoking a shift away from typical Fordist methods of production in manufacturing bases across the country. From 1975 to the early 1990s, New York City had lost the largest number of manufacturing jobs in the country, with manufacturing employment falling by 79% between the years of 175 to 2005 (Hum, 2014).

The perimeters of most manufacturing and industrial (M) zones in New York City were created by the 1961 Zoning Resolution that used 1950's industrial employment data to formulate the size and scale of manufacturing districts. 1955 industrial sector data of New York City shows the existence of 1.8 million jobs, with 971,000 of those jobs in manufacturing which shrank to less than 20% of the 1955 levels by 2011. Between 2002 and January 2012, New York City's Planning Commission began a 10-year plan to rezone and modify manufacturing districts to reflect local characteristics and modern investments. This led to the reduction of 1,100 acres of manufacturing districts, roughly 5.2 percent of pre-zoned M zones.

As part of this 10-year rezoning initiative, in early 2006, New York City created sixteen Industrial Business Zones (IBZs) to stabilize and expand business services in industrial and manufacturing areas of Bronx, Brooklyn and Queens. Businesses that move within IBZs are supported by tax credits and receive direct assistance from providers of NYC Business' Solutions Industrial and Transportation. Residential uses are not permitted in IBZs, however modifications to include hotel use may be made through a public review process.

Table 5.1: Timeline of innovation-related initiatives and trends in New York City.

Year	Description
1961	1961 Zoning Resolution to formulate scale and size of New York City's manufacturing districts.
1975 - early 1990s	New York City experiencing deindustrialization and corporate downsizing.
2002	New York City begins 10 year process of rezoning manufacturing districts.
2006	City officials create the 16 Industrial Business Zones in areas of Bronx, Brooklyn and Queens.
2009	The Sunset Park Waterfront Vision Plan is proposed. From 2009 – 2013 Industry City begins renovations and leasing studios.
2011	NYCEDC's Manufacturing 2.0 Program is proposed
2015	The New York City Industrial Action Plan is proposed.
2016	The Urbantech NYC Program is initiatied.
October 2017	Industry City petitions for re-zoning from a heavy manufacturing district (M3-1) to light manufacturing (M2-4).
February 2017	De Blasio initiates the "Made in New York" initiative at Industry City to revamp New York City's garment industry.

In parallel to the formation of IBZs, the city launched a 2011 proposal by the New York City Economic Development Corporation (NYCEDC) titled "Manufacturing 2.0" to set aside vacant or underutilized industrial spaces for small-scale manufacturers that favors local crafters, artisans, food and drink manufacturers, technology start ups, film studios, visual artist, and fashion designers. This was followed by an Industrial Action Plan set forth by the City in 2015 that aimed to modernize New York City's industrial policy by funding shared work spaces, printers and equipment, and support towards 21st century manufacturing jobs. Today, New York City's industrial and manufacturing sector makes up of 15.4 percent of the city's private sector workforce and employs more than 530,000 people.

Of this number, about 61.5 percent of jobs are located outside of Manhattan and 63 percent of jobs are available to individuals without a college degree. In addition, 62 percent of the industrial and manufacturing workforce are minority workers and 50 percent are foreign born (NYCEDC, 2015). In 2014, 68% of employment within IBZs accounted for industrial sector positions at a total of 16,675 firms and 313,603 jobs in M districts (NYC Planning, 2014). As a whole, wholesale trade and construction employment in IBZ districts between the years of 2000 and 2014 accounted for the fastest growing employment gains, as opposed to the manufacturing sector which experienced a loss of manufacturing employees in 2000 from 70,000 employed to 35,565 by 2014 (NYC Planning, 2014).

Bronx		
Bathgate	Eastchester	Hunts Point
Port Morris	Zerega	
Brooklyn		
Brooklyn Navy Yard	East New York	Flatlands Fairfield
Greenpoint / Williamsburg	North Brooklyn	Southwest Brooklyn
Queens		
Jamaica	JFK	Long Island City
Maspeth	Ridgewood / SoMA	Steinway
Woodside		
Staten Island		
North Shore	Rossville	West Shore

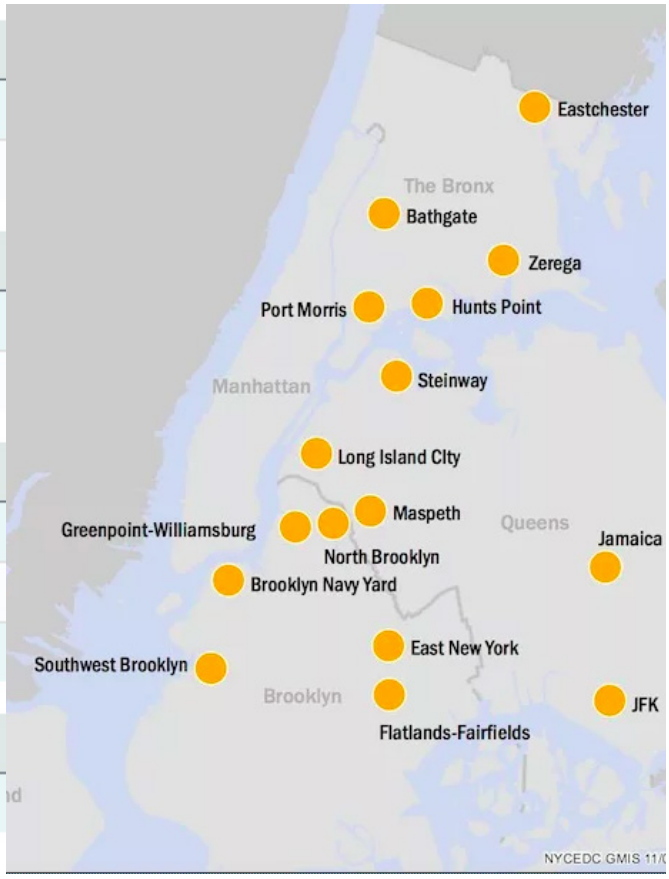
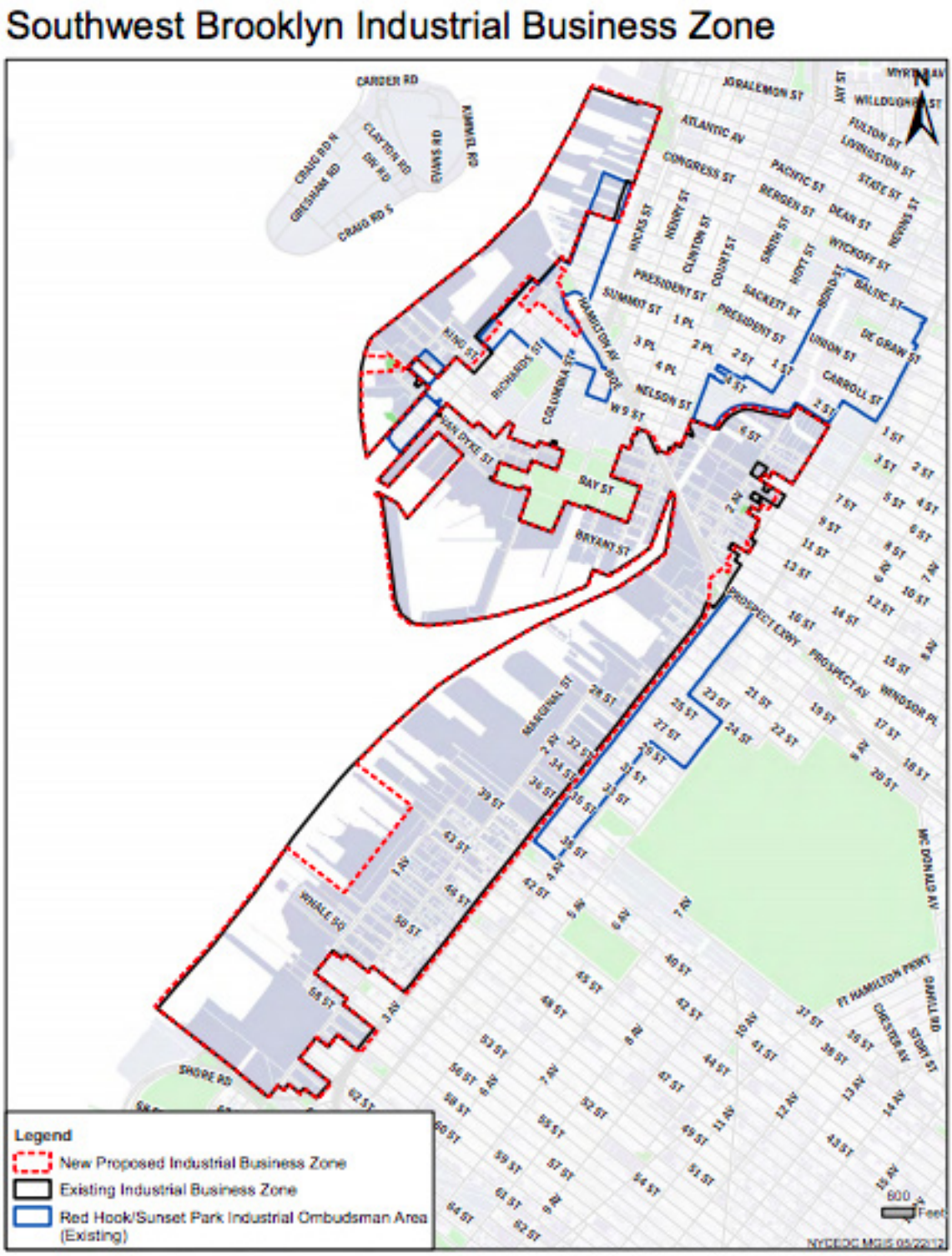


Table 5.2: (Left) 2018 IBZ locations in New York City (Source: NYCEDC)

Map 5.2: (Right) Mapped IBZ locations in New York City. Industry City as located in Southwest Brooklyn IBZ (Source: NYCEDC)



Map 5.3: Perimeters of Southwest Brooklyn IBZ and site of Industry City. (Source: NYCEDC)

With the steep decline in manufacturing employment in the 1960s and 70s and early 2000s to 2014, a myriad of industrial spaces have were left unoccupied and vacant which spurred new design strategies for the adaptive re-use of underutilized industrial spaces to include the conversion of traditional warehouses to residential units, artists lofts, and innovation districts. The small retail businesses that fit-out innovation districts are usually small, owner-run shops with small-batch production and fewer than 10 employees, straddling the line between entrepreneurship and deference towards the early mercantile city. In many cases, these retail shops are linked to science, technology, engineering or math (STEM) related occupations that produce advanced goods or research services. In a study of the future of industrial societies, author Clark Kerr hypothesized in 1983 that one imperative nature of a modern industrial society is "a literate population" created by new mass means of communication that in turn requires "more cosmopolitan knowledge within the educated elites" (Kerr, 1983). This hypothesis is perhaps no greater exemplified than the emergence of innovation districts that boasts relations with higher education and a skilled workforce that contrasts traditional low wage labor retention.

VI. THE SUNSET PARK WATERFRONT DISTRICT PROJECT

New York City government has proposed a number of innovative projects within IBZs and based upon the 2015 Industrial Action Plan including the Cornell Tech campus at Roosevelt Island, Red Hook, and the Brooklyn Tech Triangle. Additional programs supported by the city include New York City Economic Development Corporation's (NYCEDC) financing of $7.2 million into an entrepreneurial program called Urbantech NYC that aims to build office spaces, testing labs, and research facilities with workforce development programs in the areas of Midtown Manhattan, Brooklyn Navy Yard, and Downtown Brooklyn, shown to the left (Anuta, 2016).

The Sunset Park Waterfront Vision Plan 2020

Likewise to the above prototype tech spaces, the city also aimed to invest, "$37 million to support 36,000 existing jobs and 13,300 new innovation economy jobs in Sunset Park" to create a "sustainable urban industrial district" as part of the Southwest Brooklyn IBZ (See Map 5.3 on page 34). A Waterfront Vision Plan 2020 for the Sunset Park waterfront and IBZ was drawn up by NYCEDC with support from the NYC Department of City Planning, the NYC Department of Small Business Services, and Brooklyn Community Board 7 in the summer of 2009. The plan detailed short-term (0 to 3 years) to long-term (10 or more years) strategies for asset stabilization, adaptive re-use of industrial space, and densification of uses. The plan also outlines the goal of working with pre-existing advocacy and labor organizations to increase local employment and transportation improvements along the industrial waterfront or the Fourth Avenue business corridor, as "20 percent of Sunset Park residents walk to work (more than twice the citywide average)" (NYCEDC, 2009). In 2014, the Southwest Brooklyn IBZ had a 52 percent share of Brooklyn's industrial employment (NYC Planning, 2014).

The Vision Plan focused on redeveloping an area known as Industry City, a historical shipping, warehousing and manufacturing complex located on the Sunset Park Waterfront comprising of sixteen buildings at 35 acres that were constructed in 1895 by businessman Irving T. Bush. Although employing nearly 25,000 workers in the early 20th Century, by 2013 Industry City's employment based had dropped to 1,900 employees with 60 percent of the property sitting underutilized including 26 percent for low employment storage and warehousing and 25 percent vacancy (Sunset Park Working Group, 2009).

Map 6.1: Locations of Urbantech NYC developments. (Source: Urbantech NYC)

Figures 6.1: Renderings of Industry City. (Source: www.brownstoner.com)

Since 2013, Industry City's vacant spaces have been upgraded and fitted-out with new tenants, "that best serve the needs of contemporary industry" and of which include galleries, 3-D printing production facilities, boutique stores, and more in the six-million square foot space (Sunset Park Working Group, 2009). See Appendix B for a list of affiliated companies.

Industry City includes $125 million in capital investments by owners, Belvedere Capital Real Estate Partners, Jamestown, and Angelo, Gordon & Co., who in October 2017, collectively petitioned for rezoning from heavy manufacturing district (M3-1) to light manufacturing (M2-4) that allows for higher FAR from 2.0 to 5.0 FAR. M3-1 districts are traditionally designated areas for heavy industries that generate noise, traffic or pollutants and are buffered from residential areas by lighter M1 uses; in the scenario of Sunset Park, the 1939 construction of the Gowanus Expressway on Third Avenue and the M1-2D neighborhood blocks provides this buffer that runs parallel between the campus and residential neighborhoods. M2 districts on the other hand, operate as a middle ground between light and heavy industrial areas that allow for permitted smoke and open-air industrial activities as well as commercial and hotel development. However, IBZs on a whole prohibit the rezoning and upzoning of traditional manufacturing areas for any residential use.

This re-zoning from a M3-1 to M2-4 district also purports to create 900,000 square feet of retail, and over 700,000 square feet of new uses including additional space for events, retail, storage, classroom, lab and research uses, art galleries and two new hotels to serve the public, visiting academics and business companies with 271,619 square feet of hotel use for 420 rooms (Warerkar, 2017). For a detailed map of Industry City's zoning and chart explaining differences between the current zoning of M3-1, M1-2D, R6B and the petition towards an M2-4 zoning, see Table 7.1 in Chapter VII. Background History and Built Environment Analysis of the Sunset Park, Brooklyn.

Industry City's Re-zoning Preliminary EIS Assessment for Socioeconomic Impacts

In a draft Environmental Impact Statement (EIS) for the Industry City rezoning proposal, the City was tasked to list potential effects upon socioeconomic conditions within the surrounding area regarding the 6 categories of; (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement due to increased rents; (5) indirect business displacement due to retail market saturation; and (6) adverse effects on a specific industry (New York City Government, 2017). The City claims that because the rezoning does not introduce residential uses, and according to the City Environmental Quality Review (CEQR) Technical Manual that lists residential development of 200 units or less as low-socioeconomic impact projects, both direct and indirect residential displacement (#1 and #3) would not occur. However, substantive, additional paragraphs details the potentiality of direct and indirect impacts upon businesses in the area due to the rezoning and facilitation of an innovation district (#2, #4, #5, and #6).

The project area is noted to contain several active businesses that would be retained and relocated to other spaces within the project area site, therefore not being considered as a directly displaced businesses (answering #2 for direct displacement). However, because the square footage proposal for commercial use exceeds the 200,000 square feet commercial threshold listed by CEQR, the project requires an analysis of potential impacts on local businesses and indirect displacement through an increase in property values and rents (answering #4 for indirect displacement). In turn, these property values and rent rise as a direct result of an, "introduction of a new population [that] would result in new commercial or retail services that would increase demand for services and cause rents to rise" (New York City Government, 2017). Yet, this preliminary assessment only considers indirect business displacement an issue if the capture rate for retail sales for specific, relevant categories of goods exceeds 100 percent in the primary area—only then would

there be full CEQR evaluations for adverse effects on specified industries (answering for #5 and #6). In other words, a specified industry must prove that they would be economically affected by additional economic activity that alters existing economic patterns and cause displacement of workers and visitors of the existing customer base through gentrification, with as basis of 100 percent of retail goods saturated by new businesses.

Although residential displacement may be minimal, it is undeniable that businesses in Sunset Park will be predominately affected by the rezoning and new businesses placed within Industry City and a different demographic of consumers that it would attract in comparison to the neighborhood's long-term residential consumer base, yet these effects, however small, would not be accounted for in an EIS if minimum threshold for further analysis is a 100 percent proven rate of retail capture by new Industry City commercial businesses.

Table 6.1:
Preliminary CEQR Analysis of potential socio-economic effects of area upzoning.

Preliminary CEQR Socioeconomic Categories	CEQR Findings of Potential Effects
#1) Direct residential displacement	No esimated effects.
#2) Direct business displacement	Businesses will be retailed or relocated so effect is not considered direct displacement.
#3) Indirect residential displacement	No esimated effects.
#4) Indirect business displacement due to increased rents	May have potential impacts.
#5) Indirect business displacement due to retail market saturation	May have potential impacts. Must prove capture rate for retail sales exceeds 100 percent.
#6) Adverse effects on a specific industry	May have potential impacts. Must prove capture rate for retail sales exceeds 100 percent.

VII. BACKGROUND HISTORY AND BUILT ENVIRONMENT ANALYSIS OF SUNSET PARK, BROOKLYN

Situated in southwest Brooklyn with expansive views of the New York skyline, Sunset Park is a racially and culturally diverse neighborhood that has traditionally been the home to New York City's working poor of the industrial and maritime industries. Bordered by largely white and upper-middle class neighborhoods to its north and south, the area is named after its twenty-four acre neighborhood park of the same name, it is today densely concentrated with Latino and Chinese families who self-own many of the small businesses that line the major pedestrian corridors of Fourth, Fifth, and Eighth Avenues. Its geographical limits are bounded by 17th Street the north, 65th Street to the south, Eighth Avenue on its east and the waterfront industrial areas of New York Bay on the west.

The history of Sunset Park illustrates a robust and mutating socio-cultural geography that continues to expand its limits throughout time with multiple communities that have had a strong, historical relationship with industrial work and the waterfront. The industrial port economy of Sunset Park was founded by the Dutch in the 1600s which culminated into a neighborhood of working class European immigrants; most notably Dutch and Irish immigrants fleeing the potato famine in the 1800s followed by Polish immigrants in the 1880s seeking maritime factory work. By the 1900s, Sunset Park was home to a largely Scandinavian population working as industrial maritime shipbuilders, leading to the nicknaming of Eighth Avenue as "Little Norway" or "Lapskaus Boulevard," before these communities sought relocated to Bay Ridge, Brooklyn.

Their out migration was replaced by Italian immigrants in the 1920s, followed by Puerto Rican immigrants and workers in the 1950s and 1960s due to expanded employment opportunities from the widening of the Gowanus Expressway and residential displacement from Manhattan. The Puerto Rican community was the first to experience the deindustrialization of Sunset Park, iconized by the closing of the Bush Terminal and the Brooklyn Army Terminal in the 1960s. Puerto Rican joblessness resulted in another swell of out migration to the suburbs, as Sunset Park was quickly replaced by Chinese, Dominican and Mexican populations to the neighborhood in the early 1980s and onwards as a result of new federal immigration policies, modest housing and proximity to new manufacturing, industrial and maritime-related employment. By the late 1980s, the neighborhood became dilapidated; more than 90% of the storefronts on Eighth Avenue were abandoned at this time (Brooklyn Chinese-American Association, 2016).

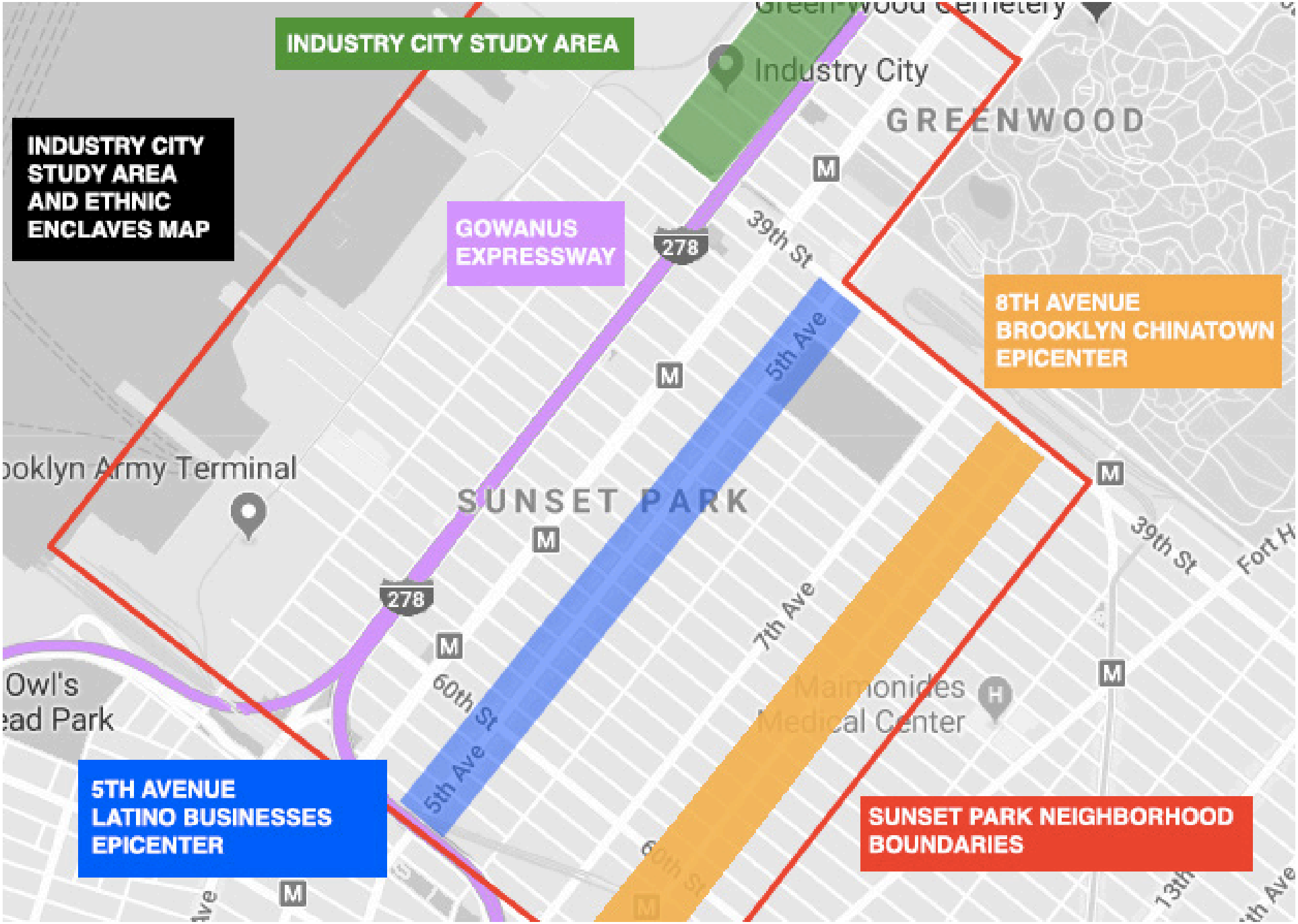
Map 7.1: Perimeter of Sunset Park, Brooklyn's neighborhood. (Source: www.sunset-park.com)

Despite the neighborhood conditions of the time, in 1986 the nation's first Chinese-American supermarket called Winley Supermarket opened on the corner of Eighth Avenue and 56th Street to serve a predominately white clientele. Today, Sunset Park's Chinatown is New York City's largest and most rapidly growing cultural enclave, spanning between 39th and 62nd Street on the Eighth Avenue corridor. Unlike the Chinatowns of Manhattan or Flushing, Queens, the Chinatown of Sunset Park is rather untouched by the tourism that Manhattan experiences and serves a distinct first-generation population of Chinese immigrants predominately from the Southern Guangdong province and Hong Kong. During the weekends, Eighth Avenue is a hive of festive activity with Chinese bakeries, supermarkets, convenience stores and street hawkers lining the sidewalks with their wares. Smaller-scale, family owned businesses can also be found on the surrounding neighborhood blocks that branch off of Eighth Avenue. The Brooklyn Chinese-American Association (BCA), a local non-profit organization involved with social service provisions and community activism since 1987, collectively sponsors neighborhood businesses and amenity provisions.

Two to three-story, mixed-use offices and apartment buildings with ground floor businesses on contribute to an entertaining, comfortable and walkable built environment. In addition, protected sidewalks are created through street parking on Eighth Avenue's two-lane corridor, thus effectively shape the walkability of the Chinatown neighborhood blocks. Although notably less dense than the Chinatowns located in other boroughs, Sunset Park's Eighth Avenue is nonetheless still compact, lively and the main heart of the community that is serviced by the nearby Eighth Avenue subway station.

Sunset Park's second ethnic enclave lies northeast of the Eighth Avenue Chinatown with the core of Latino businesses located along the Fifth Avenue corridor and surrounding Fourth Avenue blocks. The cultural impact of these communities, particularly the Mexican-American community, is apparent in the family-owned restaurants and services offered in the area. Unlike the compacted blocks of the Chinatown District on Eighth Avenue, Sunset Park's Latino neighborhood sprawls and is mainly serviced by the Sunset Park Business Improvement District (Sunset Park BID). Similar to the Brooklyn Chinatown, the built environment of this ethnic enclave is noticeably walkable with three and four-story mixed-use apartments buildings and ground floor retail lining the streets. The two-lane street is affixed with a bike line running both directions and protective sidewalks from on-street parking. Streets stemming from Fifth Avenue are predominately residential buildings.

Figures 7.1: Sunset Park Brooklyn Chinatown's Eighth Avenue.



Map 7.2: Location of Industry City relative to Brooklyn's Chinatown on Eighth Avenue and Sunset Park's Latino community Fifth Avenue epicenters. (Source: Base map from Google Maps, self-generated locators).

Overall neighborhood demographics show that the Sunset Park population is 48.3% foreign born; 33.8% Asian, 38% Hispanic, 24.3% White, and 1.7% Black. The neighborhood as a whole has a median household income of $45,710, a poverty rate of 31.6%, and a 65.5% labor force participation rate. Of the total number of employment, 33% work in industries related to manufacturing, wholesale trade, construction, transportation and warehousing, administrative and waste services (Hum, 2014). 28.1% of the population hold a bachelors degree or higher and 44.8% of the population are without a high school diploma (NYU Furman Center, 2015).

As a whole, these statistics paint a picture of a neighborhood that is ethnically and culturally diverse with strong community-based involvement and supportive organizations assisting in development, activism and service provisions. Yet, these demographics also point to hardships unique to new immigrant communities such as language barriers, low-educational attainment, and low-income households that culminate as vulnerabilities towards subsequent gentrification.

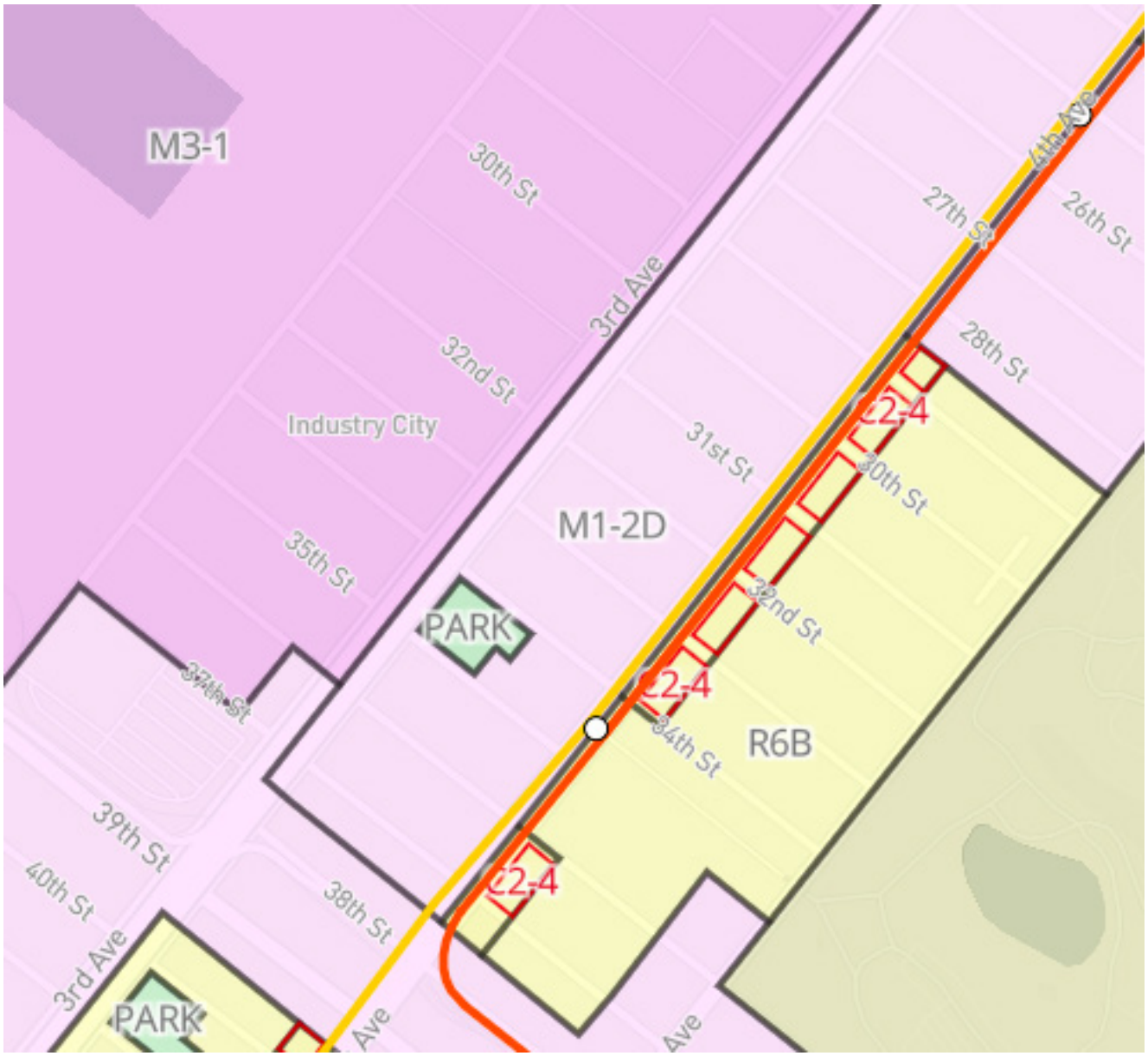
More on Industry City's Area Zoning and Geographical Relationship to the Neighborhood

Industry City is located in Sunset Park's most northeast corner, fronted by the elevated Gowanus Expressway overpass and a four-lane median roadway on Third Avenue. A one block buffer of a M1-2D zoned area between Third and Fourth Avenue separates the R6B zoned residential use from the M3-1 zoned Industry City campus. Despite its physical isolation from the two neighborhood cores of Fifth and Eighth Avenues, the Industry City campus is still associated with Sunset Park as neighborhood community groups have been the most vocal against Industry City's petition to rezone their M3-1 zone to M2-4 (see The Sunset Park Waterfront Vision Plan 2020 on page 38 and Efforts Against Industry City Re-Development in Sunset Park on page 53). A detailed map showing the area's zoning characteristics and chart explaining differences between the current zoning of M3-1, M1-2D, R6B and the petition towards an M2-4 zoning is exhibited below and on the following page.

Table 7.1: Zoning descriptions of M1-2D, M3-1, M2-4 and R6B districts as they are in relation with Industry City.

Zoning	Relation to Industry City	Type	Description of Building Types / Use	Floor Area Ratio (FAR)
M1-2D	Buffer between Industry City and adjacent residential zones.	Manufacturing	Light use industries. Allows office and hotel use. M1-2D allows for residencies for as-of-right zoning lots.	2.0
M2-4	Attempted re-zoning level by Industry City developers in 2017.	Manufacturing	Medium use industries, located near waterfronts.	5.0
M3-1	Current zoning of Industry City.	Manufacturing	Heavy industries, usually near waterfront and buffered from residential areas.	2.0
R6B	Residential blocks closest to Industry City site.	Residential	Traditional row house districts.	2.0

Map 7.3:
Zoning map of Industry City (M3-1 area) and its perimeter neighborhood
(M1-2D and R6B area).



The surrounding neighborhood M1-2D blocks leading to Industry City at the waterfront contain a mix of building types including older, two and three-story residences, and newer and taller residences that seem to be undergoing renovation. Although M1-2D is a manufacturing and industrial zone, "residential use may be allowed as-of-right on zoning lots under certain conditions" (NYC Department of City Planning, 2018). Smaller warehousing facilities, auto-repair shops, gas stations, wholesale and supply stores that are typical to a zoning of this type can also be found in this area's zoning, showcasing a diversity of uses.

Upon initial walkthrough, it is surprising to find that a fair proportion of units happen to be residential units that are buttressed against heavy, industrial use facilities such as gas stations. The transition from this M1-2D block with r esidential use to waterfront industrial manufacturing districts is jarring in scale and ambience beginning from Third Avenue. The looming, overhead shadows of the Gowanus Expressway on Third Avenue separates three lanes of traffic in either direction which offers on-street parking in both directions as well as below the Expressway. Despite the proximity to public transportation (the 36th metro stop located two blocks away from Industry City), it is evident that the area that surrounds the campus is as whole not easily walkable at the urban scale nor an interesting with the lack of mixed-use storefronts when compared to Sunset Park's ethnic neighborhood cores. In addition, there is no cultural or built environment transition from a supposedly visible residential neighborhood to the waterfront.

By reviewing the surrounding block areas on a zoning map, one would could easily conclude that residential displacement may not occur on a large-scale due to the existing M1-2D zoning, yet residential housing still exists in this manufacturing district and is largely unaccounted for in redevelopment plans. In addition, smaller wholesale and supply stores may experience indirect displacement if businesses service within Industry City service the same industries or are disinvested in with future foot traffic of a new consumer base. The community has shown remarkable efficacy in addressing these potential displacements when in fall of 2017, posters were pinned up on lampposts on the entirety of Third Avenue rallying community support against the re-zoning process (see also Efforts Against Industry City Re-Development in Sunset Park on page 53).

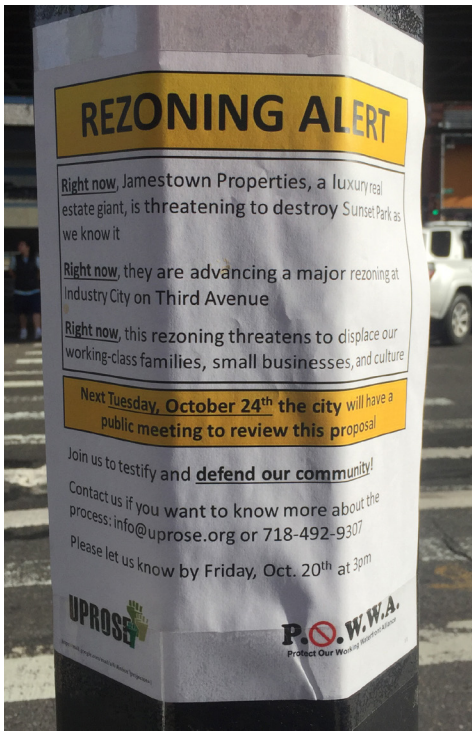


Figure 7.4: Posters showcasing anti-gentrification efforts on part of community non-profits.

Figure 7.3: Underneath the Gowanus Expressway. The scale and size of the Gowanus Expressway that divides the M1-2D zone that allows for residential use is out of proportion in the neighborhood context. (Source: Google Maps).

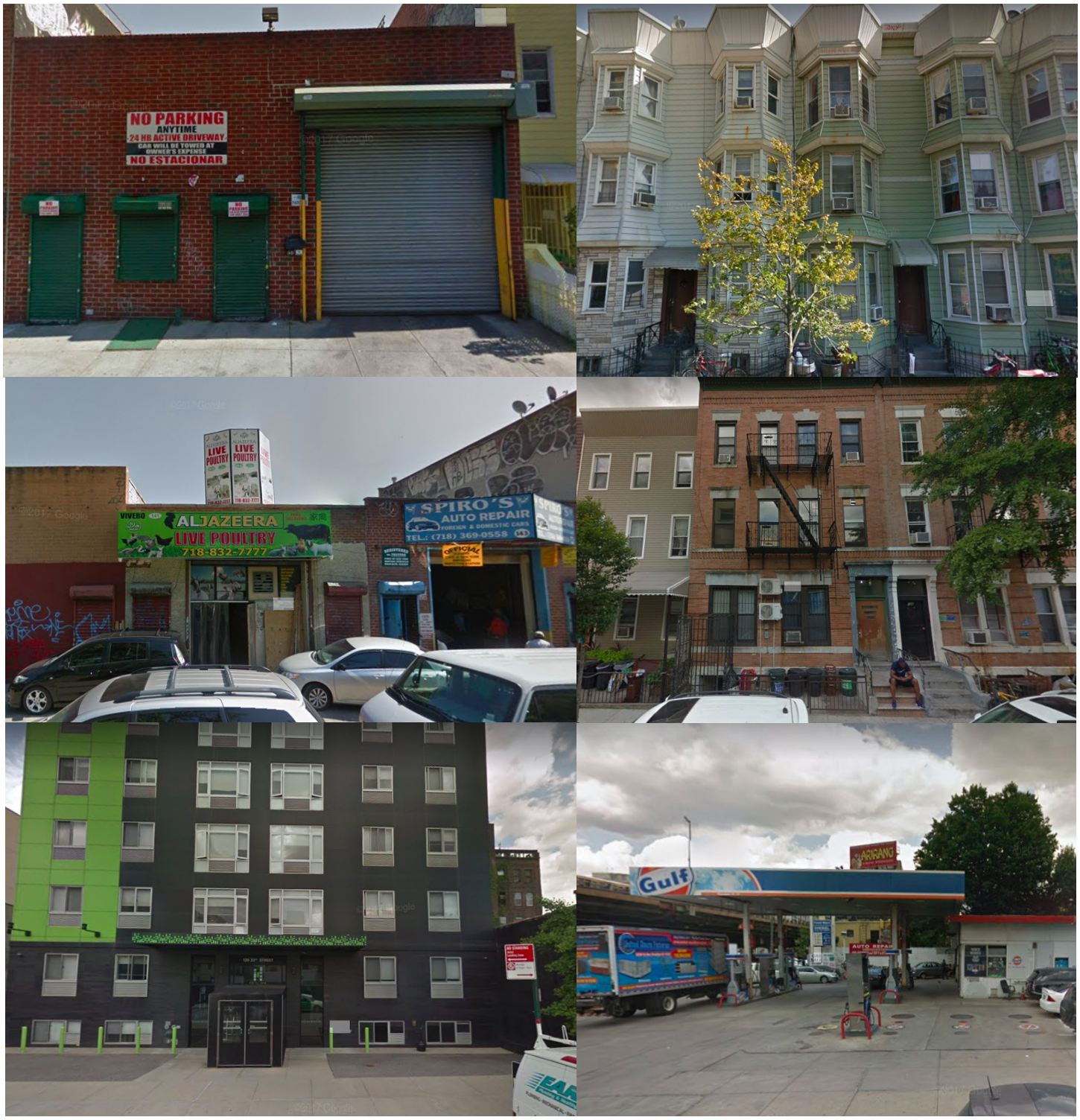


Figure 7.2:
A range of business and building types in a one block radius of Industry City and within the M1-2D zone separating heavy industrial zones from residential zones. (Source: Google Maps)

VIII. INDUSTRY CITY AS A REPRESENTATION OF INNOVATION DISTRICT CULTURE

"Whether your heart lends itself to clothes, crafts or cuisine, you will find yourself roaming Industry City with purpose. Our vibrant mix of dining, retail and arts epitomizes New York City's diverse and inspired culture." – www.industrycity.com

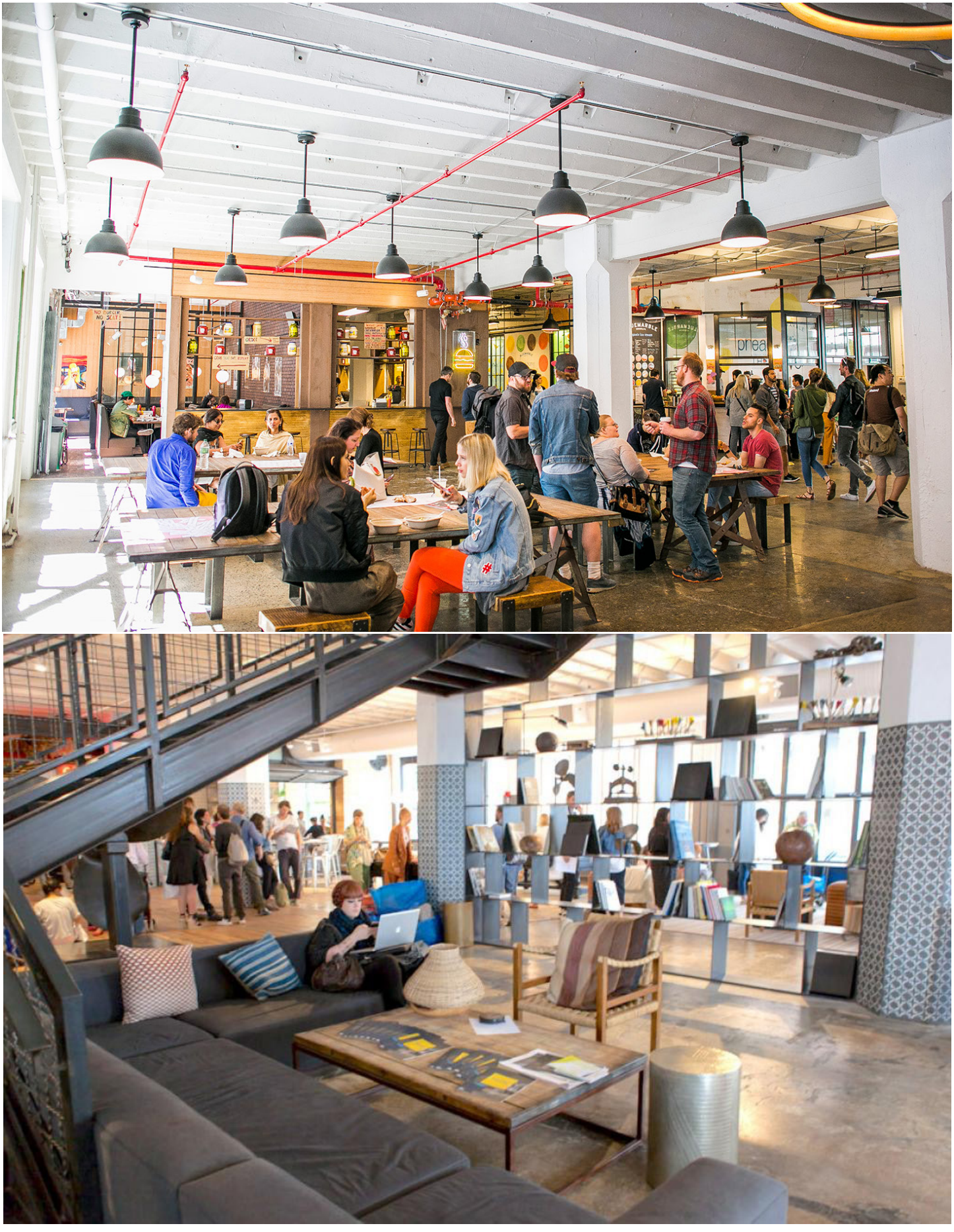
At its core, innovation districts are a relatively new development strategy to repurpose underutilized and often post-industrial spaces to serve creative professionals, artisanal tenants, and research in technology, design and science. These areas often offer weekly programming events to attract visitors and entrepreneurs alike and paint a picture of a state-of-the-art, more innovative cultural space that, although marketing its own industrial past as interesting history and culture, still differentiates its modern use with its past. Further language illustrates an innovation district culture based upon highly skilled technological industries, higher education, creativity and design, and artisanal crafts and goods. They aim to be environmentally cautious and sustainable areas that are in-line with fashionable, vibrant, and hip youth and artist cultures. At its best, innovation districts attempt to become a "city within itself," by offering a mix of uses in residential, retail and commercial space in easily accessible neighborhoods for walkability.

Sunset Park's Industry City Tenants, Culture, and the Arts

How is Sunset Park's Industry City an example of this innovation district culture? As a recently remodeled facility, boasts brand new interior design showcasing its industrial history, retail fit-outs, artist residencies, and studios along with warehousing, traditional textile manufacturing and food processing companies located on its top floors. A list of current tenants as of March 2018 is listed in Appendix B: Industry City Tenant Directory (2018) to give context and character of involved organizations, companies and tenants. The interior renovations, publicly visible tenants, food court and retail products being sold are on a whole, evidently more upscale than the products and services offered by the original, surrounding neighborhood in Sunset Park, suggesting the attraction of higher-income visitors and consumers.

A pedestrian axis cuts through six of the primary buildings and are open to the public, leading visitors through office and retail spaces that exhibit transparent, glass storefronts and show a mix of activity including design firms, wine shops, artist spaces and more. At first glance, the ground-floor retail spaces resembles a clean and well-put-together, small-scale shopping mall rather than an industrial center or office park traditional to technology hubs such as Silicon Valley. It is a clean and pleasant space with plenty of light and wall murals that announce a seemingly youthful culture tied to creative work ethic and media presence. Industry City as a whole is not extremely lively, but neither would it be classified as industrial.

Other than a brief nod to its historical, industrial past through exposed piping material and wall art, there is little evidence that Industry City pulls from "New York City's diverse and inspired culture" noted on the front page of its website, that is if one is associating the words "diversity and culture" with the many immigrant neighborhoods that exists within city limits. In fact, most restaurants in Industry City are selling food at exorbitant prices that deeply contrasts with the traditional and affordable mom-and-pop Latino-Asian eateries in the locality. It is clear that local business owners are priced out of affording a tenant space in Industry City, and that the food and consumer goods sold at Industry City would equally be unaffordable for those involved with blue-collar labor and manufacturing and warehousing elsewhere on the campus, suggesting economic, class-based divisions between consumer and worker; Industry City rental tenants and outside property owners; and the diversity of immigrant communities as a whole versus the marketing of cultural diversity as a driving force behind trendy development.



Figures 8.1: Interior views of Industry City and its businesses. (Source: Marketing from Industry City).

Efforts Against Industry City Re-Development in Sunset Park

Multiple community organizations have led campaign efforts against the re-zoning proposals that they describe as, "high-end commercialization inconsistent with blue-collar manufacturing… of a working class community like Sunset Park" (UPROSE, 2016). An October 2017 internet search of current news in Sunset Park displays the sense of urgency regarding potential effects of gentrification upon the Sunset Park community (right).

If Industry City are not serving creative needs of its own tenants and are not including community businesses in their commercial fit-outs or providing essential workforce development programs, how has the community responded to the continued growth of Industry City and the visible impacts of gentrification in the area blocks surrounding the campus?

The most active and prominent, grassroots community groups in the Sunset Park neighborhood that have voiced strong opposition against Industry City development are also heavily composed of immigrants, people of color and the individuals that identify with the Sunset Park working-class. The work of these groups show that not only were community members not given strong, participatory roles in the original development and rezoning process of the neighborhood, but that these groups are both aware and concerned with the current and future effects of neighborhood gentrification as efforts are led by members of potentially affected marginalized groups. A chart of the most active anti-gentrification organizations in Sunset Park are shown in Appendix C: Most Active Anti-Gentrification and Immigrant Based Coalitions in Sunset Park (2018) with their mission statement showcasing their commitment to disfranchised immigrant and working class groups.

These organizing groups have proven the need for more demographically inclusive voices in the development process from community members who would be disproportionately affected. Their activities are examples of what planner Susan Saegert differentiates as the two prominent actors in community-led initiatives; the "builders" and the "organizers" where the former emphasizes bonding and bridging between community members while the latter makes demands on existing power structures (Saegert, 2006). Builders are represented by the attempt of Industry City elite and developers' "to develop civic capacity and social capital" in their advertising, but this social capital between community refers to only the creative classes who are able to participate in the arena of innovation. In the case of Sunset Park, the latter, aforementioned organizers seek to create community impact through attempts to disrupt power structures through conflict, or at the very least disrupting power structures with monthly protests at community boards meetings to directly voice out community opinion against rezoning initiatives and gentrification.

Thus, the Industry City innovation district represent a broader question of immigrant community resistance, survival and employment in a post-industrial age within new urban environments molded by globalization. The clustering of low-wage jobs in the Sunset Park area that predominately employs an immigrant workforce is a reality that greatly differs from the expansive STEM research goals of the Sunset Park 2020 Vision Plan and nation-wide innovation districts as a whole. Monetary "creative capital" investments can easily claim to be sustainable in implementation as innovation districts are principally located in communities of color that continue to be disproportionally burdened by environmental hazards caused by historical planning and policy decisions of urban renewal, highway construction and industrial zoning. In other words, increased funding for innovation districts at industrial spaces only comes at the expense of furthering capitalist prospects and research. As innovation districts across the country and around the world continue to expand and grow, it is useful to understand their potential role in complicit gentrification and displacement.

Sunset Park / Gentrification News	
Website Name	**Title**
PRI	A Puerto Rican enclave in Brooklyn confronts the realities of rising prices and gentrification
Daily News	De Blasio's streetcar will speed gentrification
BK Mag	$100 Million Dedicated to Sunset Park's Gentrification
Habitat Mag	Gentrification Has Arrived in Sunset Park
Gothamist	Some Sunset Park Locals Fear a "Privileged Minority" Would Benefit from Industry City Rezoning
WNYC	Sunset Park So Hot Right Now
NY City Lens	Sunset Park is Booming, But for Whom?
NY Times	In Sunset Park, a Call for "Innovation" Leads to Fears of Gentrification
Bklyner	Gentrification Concerns Raised Over Proposed "Made In New York" Campus
Indypendent	Fighting entrification on Brooklyn's waterfront
Brokelyn	Gird Your Loins, Sunset Parkers: Manhattan and the Garment Industry are coming for the neighborhood
NY Post	These people are the biggest losers in Brooklyn's gentrification
City Journal	Letter from Sunset Park
Agorafy	A Slew of $2 million Townhouses hit the Market in Sunset Park
Patch	Sunset Park Officials, Activists Call For More Engagement On Development Projects
Patch	ICYMI: "Avocado Bar" Opening At Sunset Park's Industry City
Economic Hardship	Does This Avocado Toast Come With a Side of Gentrification?
VillageVoice	What Would Amazon's Arrival in Sunset Park Mean for Locals — and City Taxpayers?
Together Because	Anti-Gentrificaiton Working Group Wins Grant to Organize in Sunset Park
Crains New York	Brooklyn's Eocnomic Future Lies in Far Flung Neighborhoods
Betty Yu	"(Dis)Placed in Sunset Park: Through the Voices of Immigrant Stories" an interactive media project by Betty Yu
KultureHub	Report shows hipsters and gentrification are driving Hispanics out of Brooklyn

Table 8.1: Headlining news articles about Industry City, Sunset Park and gentrification (November 2018).

IX. FINDINGS

Through the combination of personal site visits, archival research and interviews with tenants of Industry City, community and immigrant-based organizations of the neighborhood, urban planners, and community residents, this project sought answers to the following:

What are the potential impacts of innovation districts upon lower-income and immigrant neighborhoods?

Were local communities offered participatory roles in planning processes and are innovation district spaces inclusive of the community in their events and fit-out of tenants?

Which groups benefit from the development of innovation districts?

Finding 1 – Innovation District Prototypes

Although all innovation districts demonstrate similar attributes in place making and development goals, each site is unique in its scale and representative industries.

The title of "innovation district" as a catchall name may be insufficient in representing the myriad of types of innovation districts that exist in design, scale, and industries. While some models of early innovation centers such as Silicon Valley were the product of more organic processes spearheaded by urban sprawl and car-based transportation cultures, the subsequent innovation districts that developed post-1990s are more aligned with one another in scale and purpose despite nuanced differences as detailed below.

The South Boston Waterfront project and Miami, Florida's Magic City Innovation District presents one model of large, mixed-use developments with housing, retail, dining and entertainment options. This model espouses a neighborhood concept, where partitioned areas are built by private and public financiers with the intention of providing all necessary amenities for urban city life in its vicinity. Although this model does provide some office spaces for technology firms and research, the ability of these types of innovation districts to include new residential units even upon post-industrial manufacturing zones capitalizes on neighborhood scale place-making over an urban design that emphasizes a campus environment for purely research or design use. Of the models mentioned, this neighborhood model is representative of a type of development that leans away from an area's manufacturing and industrial past, and although for the most part they are accessible to the public, function as its own residential neighborhood with the availability of small-scale co-working spaces and offices. The neighborhood model, in contrast to the next two models of work and play, focuses predominately as new developments for urban living.

This contrasts a second innovation district model exemplified by Kendall Square in Cambridge, Massachusetts, the three cities of North Carolina's Research Triangle Park, and Philadelphia, Pennsylvania's University City-Center City. This model of innovation district is purposed as a "campus" or an "urbanized science park" that is also nicknamed the "anchor plus model" as it is heavily tied to academic institutions and the provision of STEM related research facilities and offices. Financial investments in this campus model tend to be large and may include the involvement of well-known architects for the design of state-of-the-art facilities to represent the

identity of specific corporations or universities. These developments aim to be legacy projects on part of universities and typically do not include residential options in its design. Likewise to other models, this campus model may be an adaptive re-use solution for older, industrial buildings, however with a shifting emphasis on high-skilled labor such as biotechnology and computer science related industries.

A third innovation district model is presented by Industry City, the DUMBO neighborhood of Brooklyn, New York, and South Lake Union, Seattle. These projects emphasize the work of creative industries related to arts, media, crafts and design and include artist studios, offices, and storefronts while maintaining some areas (at times out of sight) for original industrial and manufacturing functions. Unlike the other two models, this arts model may have a functioning committee or partner with a local non-profit to conduct routine entertainment programming of spaces as a publicly accessible area. In comparison to the former two models of a technologically savvy neighborhood or research campus, the marketing of this arts model gives an impression of trendiness, vibrancy, and culture, and is directed towards younger populations, artists, tourists and visitors as a destination point. The marketing of these areas is key to its success to claim tenants and visitors; for the most part, the manufacturing zoning of this model disallows for residential development and anchor institutions and universities are not as involved to push investors and firms to re-locate in these areas. In addition, the consumer core of artists and designers that this arts model services are in need of more affordable rental prices when compared to the first two models.

Of course, some innovation districts exhibit attributes stemming from a combination of the three neighborhood, campus, and arts models. Apart from their growing presence as an adaptive re-use strategy for waterfront areas, innovation districts also hold in common the drive to be an influencer of innovation, culture, and sustainability as a method of clustering creatives and professionals for networking and co-working opportunities. Yet, understanding the differences between the types of innovation districts can prompt a more nuanced study of which type of innovation districts hold greater impact upon communities, differences in their financial capabilities, and future trends towards the types of innovation districts and the different development standards of each.

Finding 2 – Upzoning Matters

Industry City's development is a testimony to studied literature on the relationship between up-zoning and subsequent gentrification including displacement. The neighborhood displacement that happens as a result of innovation district upzoning is indirect and affects both small businesses and residents although more so the former over the latter.

Similar to the preliminary CEQR assessment within the Sunset Park Waterfront Vision Plan 2020 that detailed the potential, socio-economic effects of re-zoning processes related to Industry City's development, these findings suggests that innovation district developments may result in both commercial and residential displacements over a longer period of time. On paper, the preliminary CEQR report suggests that upzoning processes will not affect residential buildings and may indirectly and minimally impact small businesses.

Yet in interviews with Sunset Park residents, findings suggest a worry on part of residents that the neighborhood blocks surrounding the Industry City campus is steadily changing with residential and industrial buildings being upgraded or converted into more modern and expensive condos and

trendier cafés opening businesses. Whether these conversions are related to upzoning or cultural neighborhood changes as a result of Industry City is yet to be determined. However, this remark suggests that CEQR evaluations and innovation district development typically views manufacturing blocks, such as the M1-2D zoned neighborhood surrounding Industry City, as mostly devoid of residents when in fact multiple apartment complexes and homes exist within its perimeter. In the case of Sunset Park, there were more residential units than expected of both low-income and higher-income types in the M1- 2D perimeter area. It is simpler on part of public officials and developers then in evaluation processes to make an argument that none, if not minimal, residential displacements occurred as surrounding blocks are still zoned for heavy manufacturing in theory. Again, it is difficult to say gentrification has ultimately occurred when these chosen underutilized industrial areas were unoccupied in the first place. Yet, gentrification still encapsulates the attraction of educated, upper-middle class residents and consumers with little spending on further affordable housing provisions and employment opportunities for original, low-income residents of the city.

Likewise, the emphasis on displacement for commercial businesses on part of CEQR does little to capture real impacts of upzoning and innovation district development. CEQR sets an impossibly high standard of a specific industry losing 100% of its retail sales as its minimum for further impact studies. Only by passing this threshold would CEQR then consider a secondary, full evaluation for business displacement. This standard sets an "all-or-nothing" mentality for commercial displacement that if not met, fails to report real occurrences of displacement that does occur.

Finding 3 – Exclusionary Practices

Programming and tenant choice for innovation district development tends to be exclusive of the communities that they are developed within, more specifically the traditionally low-income and minority businesses in its vicinity and traditional artists. Technology entrepreneurs, highly-skilled artisans, anchor institutions (such as universities) benefit the most from the development of innovation districts.

Interviews with Industry City residents and tenants imply isolative effects of innovation district upon low-income neighborhoods. Tenants of Industry City whom arrived beginning in 2008 and 2009 found a space that was "completely desolate" with remnants of the building's manufacturing and industrial past. At the time, there were no retail and food amenities as all leases were geared towards the provision of creative workspaces. As time went on, the nature of these leases shifted from tenants practicing traditional artistry to small businesses and designers who were making functional objects to sell such as craft goods, manufactured goods, clothes, accessories. Businesses in the Industry City space now include chocolatiers, media companies, drone manufacturers and more.

The distinction between traditional artistry and industrial design and craft goods is important to consider as both fields have cultural implications – the former as more representative of bohemian, low-cost means and the latter as more representative of high-tech design, intellectual property and manufacturing. When interviewed, traditional artists stated their own reconsideration and doubts of the language of a "creative city" and the marketing of a "reclaimed industrial city" as espoused by cluster theorists as an attractive, cultural development phenomena:

"True traditional artists and creative professionals do not want to be in spaces that are 'made for them.' They want to make their own moves. But in an innovation city similar to Industry City, developers shape the space around us and reconfigure whole floors for artists. But the environment is white and sterile, the rent is unaffordable and there are rules to how the space can be used. Artists do not want to be in cleanly put together spaces, we want to shape the spaces where we work. We cannot be part of a constructed community… creative spaces should be naturally formed. For traditional artists practicing in the city, we typically do not consider moving to Industry City anymore for our studio spaces."

– Industry City Artist & Tenant

What is left then, is a development that promotes very specified, intellectual and technology-based artistry and public programming to boost craft sales of these often expensive, artisanal products through event programming. It is important to note that this public programming provided for Industry City caters towards high-income, spending visitors and artists, rather than an invitational strategy for community-bonding events. These monthly public events have included holiday markets, yoga sessions, film screenings, and outdoor music events as a strategy for bringing further visiting retail sales through foot traffic. Although some small businesses and restaurants in the surrounding area do benefit from this foot traffic and its new clientele, the sales impact from new foot traffic is minimal and there seems to be a substantial increase in foot traffic also requires tighter security for both tenants and visitors. Tenants remark that while Industry City feels safe due to its strong security presence of employee cards and a heavy surveillance system, the atmosphere of the campus deeply contrasts with the more "seedy" if not low-income neighborhood character of specified businesses that occupy the perimeter of manufacturing districts, such as the multiple adult video stores located adjacent of the development on Third Avenue (see explanation of the historical underpinnings of neighborhood's sex industry on page 68). This securitization intensifies delineation of the campus border and its association with safety.

Industry City tenants also remarked that the restaurants that out-fit available Industry City spaces are already well known New York City chains:

"I'm not seeing any indication that Industry City is offering to incorporate small businesses from the original community into its space. It is mostly already well-known chains that are already doing well that are expanding their businesses in a new space."

– Industry City Artist & Tenant

The reality of the kinds of invited companies and restaurants to participate in Industry City differs from language in the preliminary CEQR statements that all displaced businesses, if any, will be more or less given compensated spaces within the development itself if displacement were to occur. Instead, we see that the Industry City and innovation districts contribute in its early stages to exclusionary practices by favoring non-local businesses that cater to wealthier clientele. Although the overall cultural impacts and lasting effects of innovation districts and of gentrification of Industry City are difficult to measure as the development is still relatively new, it is clear that the programming of Industry City and the fit-out of businesses are exclusive of the surrounding community, more specifically on part of the types of programming and retail options available towards low-income consumers.

Interviewed Sunset Park residents also remarked on neighborhood demographic changes:

> *"I live in a pre-war building and before, the apartment tenants were Vietnamese refugees who left during the war and have been here for a number of years. It is very clear that the neighborhood is mainly a minority, if not working class Hispanic neighborhood. But now we are seeing more and more white, young couple sand creative professionals moving in. There are cafes now where you can sit with a latte and work on your latest novel, which was unheard of a few years ago." – Sunset Park Resident*

These perspectives are not unfounded. Demographics report that the number of Hispanics in Sunset Park fell by 13 percent in the 15 year time span between 2000 to 2015 (Campanile, 2017). A Furman Center study further found that the median rent in Sunset Park increased from $1,000 to more than $1,300 between 2000 and 2014, and that "median household in Sunset Park went from setting aside 27.5 percent of its income for rent to setting aside 38.2 percent" (Furman Center, 2016). The results of this study matched the two "gentrifying" requirements set by New York University that "the neighborhood had to be considered "low income" in 1990, meaning its average household income was in the bottom 40 percent of the city's neighborhoods" and "in the time since 1990, the neighborhood's rents had to have increased faster than the median rate of increase for the city" (Santore, 2016).

Finding 4 – Labor and Workforce Development

Job growth for the community as promised by innovation districts are confined to sectors of low-skill labor. However, innovation district developments are an improved opportunity to include and provide workforce development that leads to career advancement for low-income, minority, and young adult workers.

At its most basic understanding, innovation district job sectors are seen as divided along the traditional sections of high-tech and high-skilled design or healthcare work and research, low-skilled labor in industrial, manufacturing, construction, and cleaning services, with clerical services, retail food and tourism services that operate in the middle of the spectrum.

Table 9.1: Job sector stratifications of innovation district opportunities

Labor Stratification	Description
High	Technology companies, high-skilled design work, healthcare work and STEM research.
Middle	Clerical services, retail, food and tourism.
Low	Industrial, manufacturing, construction and cleaning services.

Research shows that despite the language of career growth as outlined in most innovation district proposals and development goals, the reality of jobs truly available that integrates the surrounding community is only limited to low-skilled labor. Research also suggests that despite increased economic development and growth within the innovation district, and as stated in Finding 3 that the effects of gentrification has yet to be measured nor directly shown, the spillover benefits of innovation districts are nonetheless minimal to the surrounding community. However, with the many industrial and mechanical resources and high-skill capacities, it would be a worthwhile environment to consider the integration of language courses, skill-set training, computer literacy and professional development as a stronger component of all innovation district development.

In looking at workforce development trends and through interviews with labor, immigration, and workplace justice organizers and legal advocates, this report has learned that within the New York City metropolitan area, workplace issues typically stem around low-waged workers and Latino immigrants. A majority of cases involve workers not being paid minimum wage or paid overtime, wage discrimination, discrimination on basis of gender and sexual orientation, sexual harassment, violation of New York City's paid sick leave law, and lack of access to compensation by injured workers. The industries most represented in these cases include those working in the restaurant and food industry, followed by factory workers, construction, cleaning services and domestic workers.

Despite widespread non-compliance with labor law that is common across the nation and around the world, New York City has uniquely some of the strongest legal protections for workers in the country. This is partly through the work of the Office of Labor Policy and Standards within the Department of Consumer Affairs which in the last few years, has enforced new city laws for worker protections including licensing registration, accountability acts, paid sick leave, and the funding of legal service groups. Interviewees also emphasized a necessary but yet-enforced shift in re-distributional compensation policies to encourage compliance for companies to follow laws rather than increasing penalties as before. The latter under the view of economic benefit analysis has rather become an incentive for businesses to face legal repercussions of law violations than to follow industry standards.

> *"The penalty for breaking the law is not big enough. When people can get away with breaking the law, it makes it impossible for the competition to follow the law, it actually costs them way more to do so therefore violators of labor law have an unclear competitive advantage in the industry. Instead of penalties, we want to make sure that the city encourages compliance, for an instance, by following the law you become eligible for things that others wouldn't." – Supervising Atttorney, Legal Advocacy Group*

The most recent work of the Office of Labor Policy and Standards and their funding towards non-profit labor groups working in manufacturing and industrial labor sheds light on the decreased attention in the 1990s and early 2000s towards workforce and skill development and adult education for low-income workers, minority workers, and young adults. A refocused attitude towards these disadvantaged groups has been studied in multiple reports by Center for an Urban Future (CUF), which notes Mayor de Blasio's new approach to workforce development in November 2014 with two-program strategy called Industry Partnerships and Career Pathways. Industry Partnerships aims to address "mismatches between labor market supply and demand in [the] six economic sectors" of healthcare, technology, industrial or manufacturing, construction, retail and food service, by creating a platform for interaction with employers such as Occupational Safety and Health Administration (OSHA) training for workers and "building curricula, training, and credential attainment programs to reflect local market conditions" (NYC Career Pathways, 2018). Likewise, Career Pathways is "a framework focused on helping jobseekers and workers to build the skills required to be more competitive in the labor force" and differs from the previous model of workforce development initiatives in New York City "which prioritized connecting workers with available jobs as quickly as possible" (González-Rivera, 2016).

Innovation districts as a whole exhibit all six sectors of healthcare, technology, industrial or manufacturing, construction, retail and food service as listed by Industry Partnerships. Specific to Industry City is the Innovation Lab, a 7,700-square-foot, public-private collaboration that offers pre-screening and job placement service to "train a quality workforce of local community residents, and integrates them into surrounding businesses" (Industry City, 2018). Services fall into the four categories of Adult, Youth, Immigration, and Business programs and include resume writing assistance, career workshops, web and coding fundamentals, U.S. citizenship exam preparations, English for Speakers of Other Languages (ESOL) classes and small business development and marketing workshops. The Innovation Lab claims to have benefited more than 1,000 Sunset Park area residents with on-site job training, placement and entrepreneur support, matched employment for 20% of all Sunset Park residents who live and work in the neighborhood, increased the number of jobs on the campus from 1,900 to 6,500, and provided 140 job placements for local residents since 2013. (Industry City, 2018).

Yet, through discussions with residents and Industry City tenants, the impact of the Innovation Lab is quite minimal to the Sunset Park community, as it does not exhibit many opportunities for career advancement for minorities, and whose work is not apparent to Industry City tenants who claim to have had no interactions with the outside community. However, the primary actions of the Innovation Lab sets a foundation for other innovation districts across the nation should strive to emulate, especially if city-wide programs for workforce development are in place to give generous support to workforce development initiatives such as New York City's Industry Partnerships and Career Pathways. There is enormous potential for innovation districts to create more spillover effects via workforce development for the community instead of isolating job creation and economic growth for specifically high-tech sectors and higher education workers. The language that shapes innovation districts and their development should be revised with this intent – with economic growth facilitated hand-in-hand with re-distributional policies that can benefit the surrounding community through workforce means.

Finding 5 – Community Activism and Perspective Rifts

Immigrant groups are reinventing urban working class neighborhoods through new, multiracial alliances and political activism. Their work aims to address environmental justice, gentrification, and remedy the historical, socio-economic exclusion of communities of color in urban planning decisions. In addition, a division in perspectives between local communities and the ones of large developers continues to exist in the defining of innovation and community development.

Archival research has shown evidence of the Latino-Asian neighborhood of Sunset Park as an area that has been historically burdened with a number of social and environmental hazards including but not limited to: lack of green space, "sludge treatment plants, waste transfer stations, incinerators, power plants" and heavy highway and truck traffic at major throughways leading to "major asthma and lead poisoning corridors" (Hum, 2014). The placement of the Gowanus Expressway in 1939 mirrors the decades of American urban renewal policies and redlining resulting in the building of highways through low-income communities of color.

In addition to environmental hazards, Sunset Park was notorious as one of New York City's neighborhoods with a burgeoning sex industry. Third Avenue's pornography shops was a result of a 1995 zoning resolution that restricted the location and size of New York City adult entertainment establishments to manufacturing zones and away from residential zones, based on the stigmatization of sex work as undesirable and "undesirables and associated with an immoral and criminalistic industry" (Hum, 2014) (Steinmetz, et. al, 2011). Yet in recent years, on part of waterfront development, social media and gentrification, the historical ties that juxtapose Sunset Park with sex work has lessened, but nonetheless remained in a more discreet manner. Studies by the Urban Justice Center in 2005 and anthropologist Cynthia Ruiz researching Latina sex workers in Sunset Park have shown that 40 percent of sex workers are immigrant women "woven into most neighborhoods" and "indoors [at]… private residences, restaurants and laundromats" (Thukral, et. al, 2005) (Ruiz, 2013). History has shown manufacturing districts to be ideal sites for socially and environmentally perceived hazards with the intention of relocating such uses in areas of low residential density, yet these districts often are in areas of low-income communities of color due to lower housing costs.

As Industry City's development is rather new and sustainability sustainable measures have just been placed, it is difficult to quantify their proposed environmental and social impacts upon the area in question. However, through the decades Sunset Park has shown remarkable efficacy in community self-governance to stifle impacts of these environmental and social hardships through immigrant growth coalitions. For example, the proliferation of ethnic banks that offer services linguistically and culturally specific to the Latino-Asian community in Sunset Park is evident, as is the strength and overarching guidance of what Hum terms a migrant civic society; a coalition of nonprofit institutions, labor and advocacy groups, worker centers, environmental groups and social service organizations (Hum, 2014). Since the mid 1960s, these groups have built divergent but co-cultural working groups against gentrification and developments that are predominately associated with capitalistic motives associated with white and educated property and business owners. In response, large development projects across the nation including innovation districts such as Industry City are making additional efforts for community outreach and local inclusion, if not marketing the development as such through the forms of workforce development. Yet, much work is still needed to occur in order to dispel this stigma of equating innovation to predominately white and college-educated groups, including increasing the number of people of color in managerial positions, community cultural awareness on part of developers, and re-analyze motives of profit making and re-distribute needs if not include local communities in business initiatives related to innovation. As of March 2018, the re-zoning of the Sunset Park waterfront district has yet to advance, but remains as a contentious debate amongst developers and non-profit groups alike while Industry City continues to add more boutique-manufacturing firms to its tenant repertoire.

This research found differing perspectives of innovation districts and levels of understanding as well as strength of their political stances on part of; 1) developers, 2) tenants and those involved (with the development), 3) community residents, and 4) community organizations.

Interviewed Industry City tenants, who are both involved in the arts, are not Sunset Park residents, and hold masters level college-education were unaware of the details surrounding the most recent re-zoning initiatives, development politics, and hotel development of the area, but were conscious of anti-gentrification flyers that dotted the surrounding perimeter of the campus in the last year. For the most part, these two interviewed tenants did not exhibit a strong opinion about Industry City development despite their own personal, politically liberal stances on the topic of anti-gentrification in general. They were also unaware of any community development or community building initiatives on part of Industry City developers and had not seen any workshops or events related to immigrant outreach and workforce development. There was a striking acknowledgement that there has been little community involvement or participation between tenants and the outside community. In addition, these two tenants viewed innovation as a

stand-alone concept that is driven by technology, infrastructure, research, design and STEM and is separate from the philosophical "clustering" perspective as often held by developers and forming the base argument for the need of developing innovation districts in the first place for competitive, creative clustering. Instead, their decision for relocating to Industry City and renting studios was based solely on price and the availability of 24/7 studio hours.

Their perspectives were measured against interviews with short and long-term Sunset Park residents of Chinese-American and Mexican-American descent who are not affiliated with Industry City. Interviews showed that neighborhood residents were more acutely aware of gentrification, citing the shuttering of mom-and-pop stores, a newer mix of "hip" businesses opening in the area, and the greater presence of younger, higher income and white families moving into the neighborhood. Residents were aware of potential gentrification, but did not have strong opinions against the re-zoning efforts and the development of Industry City in general as there were less awareness about the specificity of development plans and hotel development. Their views are echoed by the coalition of community groups who are more invested in the language of zoning and planning, and are more vocal about the potential impacts of upzoning neighborhoods.

This study finds that differing perspectives of the definition of community development exists between these four groups, with developers emphasizing on profit-making schemes, economic development, and sustainability of which positive effects trickle over to the local community, whereas community leaders contrast in perspective, instead viewing community development as supportive of immigrant and working class groups.

> *"Why do corporations show an interest now in investing in my community if it wasn't for this unused space? Why haven't they invested in this neighborhood before knowing that minority, low-income communities live here or that our environment was so hazardous before? Why are these developments advocating for workforce development through innovation when this could have been implemented beforehand?"*
>
> *– Community Activist / Environmentalist*

Indeed, the intent and profit-making motives of innovation districts should be questioned, as its purposes of waterfront resiliency and sustainability are measured against potential gentrification and the cultural exotification of not only industrial spaces, but also the disinvested neighborhoods that they are surrounded by with centuries of history tied to manufacturing.

Finding 6 – Continuation of Trends

The use and marketing of innovation districts as an urban planning place-making tactic to re-develop waterfront areas will continue to grow despite lack of social equity responses.

The language advocating for the development of innovation districts continues to be powerful and seductive to developers, urban planners and city government officials alike. Overarching themes include the view of innovation districts as a profit-making opportunity, while rehabilitating empty spaces through smart and sustainable adaptive re-use strategies that double as waterfront resiliency zones. In line with the view of innovation and technological advancement, innovation districts can also place a city "on the map" for technology companies and developers, thus attracting further companies into the city and boosting both urban economies and city branding as modern and advanced. Innovation districts serve a number of social groups; tourists, tradesmen, craftsmen, artists, non-profit community groups, government agencies, local community members (through workforce development) and more. They are integrated spaces for work and play, and are unique in its retrofitting of industrial interiors for more modern styles. Research thus clarifies that the overall, for-profit, development intentions of innovation districts are not grounded in social equity, despite their routine placement in economically and environmentally disadvantaged neighborhoods of which have historically been involved in industrial and manufacturing industries - not by choice, but by economic necessity, segregation, and social discrimination that bars career advancement.

This study has found that in addition to potential gentrification, there exists a trend of waterfront disneyfication, of which in turn also markets and exotifies the cultural diversity of its surrounding neighborhoods to drive visitors and foot traffic. At its most basic definition, disneyfication is "the transformation (as of something real or unsettling) into carefully controlled and safe entertainment or an environment with similar qualities" (Merriam-Webster, 2018). Innovation districts tend to render the industrial manufacturing history of its buildings to be more simplistic by putting in place new architectural features and socio-economic structures built upon consumerism, consumption, tourist-friendly spaces, and the repackaging of manufacturing and industrial history as performative labor and sentimental themes of unique, culturally vibrant frontiers and as hyperrealist, post-modernist venues. In reality, these spaces parallel long-term, diverse communities that exist outside of campus perimeters and who have previously and continue to be involved in globalization trades that require low-income, blue-collar labor in industries pitted with faults. The marketing of innovation districts with industrial histories and refurbishing of areas as walkable and scalable neighborhoods with mixed-use amenities are predominately catered towards the increasing of foot traffic and tourism through spaces, similar to theme parks. This disneyfication of industrial areas may have impacts leading to potential gentrification by branding neighborhoods as cool, friendly and culturally significant.

> *"Attention Artists! Looking for affordable studio space? The next up and coming cool neighborhood in NYC? The Next Big Art Scene emerging from this economic recession? Well… here it is try Industry City in Brooklyn, NYC"*
>
> *(ARTmostfierce Blog, 2009).*

Despite exclusionary practices and the securitization of innovation district campuses detailed in Finding 3, the disneyfication of post-industrial spaces go hand-in-hand with the exotification of surrounding neighborhood minority communities, exemplified by the marketing of Sunset Park's Latino-Asian groups as a global immigrant neighborhood. With the wealth of food and transportation options, and still affordable rent prices, the cultural neighborhood dynamics and diversity of communities surrounding innovation districts has been touted as the "strong Millennial preference for urban living" in regards to choice and affordability and as "one of America's 'coolest' neighborhoods" in 2017 (Warerkar, 2016) (Warerkar, 2017). Neighborhood diversity adds to innovation districts' language of liberal tolerance as a defining factor of creativity. For now, innovation districts are deemed as trendy and creative districts that will not only potentially gentrify neighborhoods they surround, but will also continue to grow throughout the United States as a viable development trend towards economic growth and sustainability.

X. CONCLUSION

Innovation districts are on a whole, successful enterprises developed as seemingly politically neutral developments that advocate for environmental sustainability and further advancement of technological research. As a tangible rallying cry towards innovation, they are routinely backed by public officials as they become branding initiatives for marketing truly tolerant, friendly, smart, and exciting cities; vocabulary that tends to attract well-known companies, curious tourists, and new, younger consumers and residents which in turn drive economic growth and the proliferation of creative neighborhood districts. The merits of innovation districts and their involvement in the economic development of modern cities are indisputable, however the social underpinnings and contradictory histories of waterfront industrial spaces leaves questions to be asked about socio-economic spillover effects, and the intentions and inequities that impact their surrounding border communities.

Archival research has shown decades-long relationships stemming from racial prejudice between minority and immigrant communities and the blue-collar, industrial and manufacturing sector, particularly in areas geographically situated at waterfronts. Additional studies also show a disproportionate share of communities of color being located next to areas of environmentally hazardous uses, that respectively correspond to immigrant and minority populations moving to these areas for low cost housing, a shortened commute, and the availability of industrial jobs that may entail less stringent standards for education and legal status. These communities that have historically been disinvested in are only now heralded as ideal sites for revitalization and innovation with promises of community workforce development and job growth.

This research has found that despite economic growth, technology advancements, and the sustainability merits of innovation districts, these developments have a potential to cause displacement of businesses and residents through upzoning in order to create idealized neighborhoods designed for greater walkability, density and sustainability. Literature on upzoning shows detrimental impacts upon communities of color, including displacement through the outcompeting of sales and rising housing costs from a new consumer base and incoming residents. More specific to Industry City, industry-required EIS and CEQR socio-economic impact statements do little to bring light potential indirect displacements by setting high thresholds in the defining of business displacement and emphasizing low residential density in manufacturing-zoned districts despite the legal allowance for pre-existing as-of-right zoning lots.

Study results have also shown the exclusion of community businesses, firms, and low-income individuals from innovation district, as tenant space, event programming, and restaurants are priced out of reach for most mom-and-pop businesses or low-wage factory workers. Innovation districts attempt to remedy these inequities through claims of workforce development as a method of re-distributional policy making, however this typically holds little impact in job growth for community members who are still sequestered to low-wage work due to skill and education status, proving that the spillover effects of innovation district profits and research are minimal.

In response to these socio-economic inequities, this report has seen remarkable efficacy on part of community members and stakeholders in advocating for anti-gentrification efforts through cross-cultural unison against innovation district development, especially on part of minority and immigrant groups. The view that ties innovation and "green sustainability" with gentrification, educated white constituents, profit-making initiatives, and inequity is shared throughout the community. In the marketing of tolerance as tied to innovation, communities of color are exotified and at a bind with becoming the "next trendy neighborhood," evidenced by greater neighborhood foot traffic and potentially ending with the displacement of low-income renter communities. Yet, innovation districts have the opportunity to dispel these attitudes by re-shaping current intentions of development, bringing a fair share of profit to communities, and involving more communities in development decisions.

Continuous studies of innovation districts should be made as these developments have only just begun in making its mark upon urban landscapes. Further studies could test the three neighborhood, campus, and arts models of innovation districts and dissect potential gentrifying effects of each. In addition, interview responses appear to have outgrown the primary literature of creative clustering and the creative capital theory that has been in place since the 1980s – instead, creatives are choosing to relocate in innovation districts on decisions based on rental cost and hours of operation, the former which seems to be increasing in annual rental costs. A perspective shift from the prototypical creative, innovative, and artistic language as marketed by innovation districts to the realities of an environment that is in-line with wealthier consumer markets and constituents is inevitable.

The social impacts of innovation are paramount, especially to low-income and diverse areas as exhibited by the neighborhood of Sunset Park, Brooklyn. As innovation districts continue to be developed around the nations and around the world, it is with urgency that policy makers examine through a historical lens and a more holistic approach, the socio-political impacts that innovation developments may have upon already socially, economically and environmentally disenfranchised communities of today.

XI. REFLECTIONS

This thesis poses a myriad of conceptual questions that could be included in further research on innovation district development trends and their potential, socio-economic impacts upon low-income neighborhoods of color. At this moment in 2018, understanding the literature that surrounds the impacts of innovation district development and technological growth upon the field of urban planning seems suspended in time. Should technology in the near future, constitute as its own separate industry? And if so, do the specified models of innovation district development merit its own zoning use in the future of urban planning in waterfront zones? Much like the inter-industry gentrification of traditional artists and "technology-based" artists creating work for commercial sale, how could these areas or zones of innovation push out into further geographical boundaries, any existing, traditional industries of manufacturing? What would be the impact of such an initiative as these manufacturing zones are socially and economically tied to working class neighborhoods of color in the provision of jobs and relation to commute times? And in the study of funding for these innovation districts, can the intent of development be measured and questioned for whom these districts realistically serve and which model of innovation district is most supported by city governments and private investors?

On the topic of workforce development and education, this essay has explored several instances of current characterizations of "innovation" as spaces that are inclusive of low-income communities of color. More specifically, the attributes of innovation, on part of this community, are affixed upon notions of higher education attainment, high-skilled knowledge, and white culture that is heavily tied to advocacy work for sustainable, environmental movements that come much too late for communities already burdened by histories of environmental racism, exclusionary and expulsive zoning. How can these perspectives shift in the future, and in what ways do they contrast with the reality of the high number of educated immigrants that do apply for specialty occupation (H-1B) visas for the purpose of coming to the United States to work in the fields of technology within the last three decades? What are the relationships of these two immigrant groups to grander themes of technology and globalized labor?

Much of the world has seen the drama of this story in the realm of technology, community and geographical expansion evolve over the past thirty years in Bay Area's Silicon Valley, now known for not only its burgeoning technology sector (which is overwhelmingly white and educated), but also its lack of affordable housing, homelessness, and racially segregated, low-income neighborhoods that continue to be disinvested in despite the presence of industrial wealth associated with innovation as first generation district models. These low-income minority neighborhoods continue to face the detrimental effects of environmental racism at waterfront locales, and yet are situated in the same geographic contexts as these industries that claim to champion climate change initiatives and eco-friendly policies. Sociologically, how do low-income immigrant neighborhoods and immigrants with education and financial capabilities align themselves with environmental movements? Would more of the United States, and the world, see the expansion of the Bay Area model and its exclusivity or can the culture of technology change before impacts of gentrification were to occur?

Without question, innovation district growth will change the urban landscapes of the United States. It is a forceful and highly sophisticated urban planning mechanism that is sure to capture the attention of local governments looking for fresh branding initiatives and an engine for economic growth in their cities. However, the intent and equitable impacts upon communities on part of innovation districts still needs to be addressed. What remains is therefore a sleeker and trendier form of gentrification that hides behind assertions of environmental sustainability and the need for competitive, creative industries in the face of globalized labor transformations.

“

At this moment in 2018, understanding the literature that surrounds the impacts of innovation district development and technological growth upon the field of urban planning seems suspended in time.

”

XII. BIBLIOGRAPHY

"A Bluer Sky: A History of the Brooklyn Chinese-American Association." 2016. Brooklyn Chinese-American Association. 2016. http://www.bca.net/eng/about.html.

"America's Most Endangered Historic Places." n.d. Accessed March 17, 2018. https://savingplaces.org/americas-most-endangered-historic-places#.Wqx-05Pwb-Z. Anuta, Joe. n.d. "City to Invest $7.2 Million in New Hubs to Bolster Tech." Crain's New York Business. Accessed March 17, 2018. http://www.crainsnewyork.com/article/20160211/REAL_ESTATE/160219969/new-york-city-to-invest-7-2-million-in-new-hubs-to-bolster-tech.

Athanassakis, Yanoula. 2017. Environmental Justice in Contemporary US Narratives: Environmental Justice in Contemporary U.S. Narratives. Taylor & Francis.

Been, Vicki. 1994. "Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?" 1994. https://www.jstor.org/stable/pdf/797089.pdf?refreqid=excelsior%3A139964073f6920386d76ab775ed80b11&seq=1#page_scan_tab_contents.

Breschi, Stefano, and Franco Malerba. 2007. Clusters, Networks, and Innovation. Oxford University Press.

Campanile, Carl. n.d. "These People Are the Biggest Losers in Brooklyn's Gentrification." New York Post. Accessed March 17, 2018. https://nypost.com/2017/11/06/hipsters-are-driving-low-income-hispanics-out-of-brooklyn/.

Cohen, Joyce. 2001. "If You're Thinking of Living In/Sunset Park, Brooklyn; Historic Character and Foreign Accents." The New York Times, February 4, 2001, sec. Real Estate. https://www.nytimes.com/2001/02/04/realestate/if-you-re-thinking-living-sunset-park-brooklyn-historic-character-foreign.html.

"Cool Planning: A Handbook on Local Strategies to Slow Climate Change." 2010. Oregon Transportation and Growth Management Program. http://www.oregon.gov/lcd/tgm/docs/cool_planning_handbook.pdf.

"Definition of Disneyfication." n.d. Merriam-Webster. Accessed March 17, 2018. https://www.merriam-webster.com/dictionary/Disneyfication.

DiNapoli, Thomas P, and Kenneth B Bleiwas. n.d. "An Economic Snapshot of the Greater Sunset Park Area." Office of the New York State Comptroller. Accessed March 17, 2018. https://www.osc.state.ny.us/osdc/rpt5-2017.pdf.

"Draft Scope of Work for an Environmental Impact Statement for Industry City." n.d. New York City Government. Accessed March 17, 2018. https://www1.nyc.gov/assets/planning/download/pdf/applicants/env-review/industry-city/draft-scope.pdf.

"Employment in New York City's Manufacturing Districts." 2014. NYC Planning. https://www1.nyc.gov/assets/planning/download/pdf/data-maps/nyc-economy/employment-nyc-manufacturing-zones.pdf.

Florida, Richard. 2003. The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life.

———. 2004. "Cities and the Creative Class." 2004. https://creativeclass.com/rfcgdb/articles/4%20Cities%20and%20the%20Creative%20Class.pdf.

García-Lamarca, Melissa. 2017. "Green Gentrification: Urban Sustainability and the Struggle for Environmental Justice." Local Environment 22 (12): 1563–65. https://doi.org/10.1080/13549839.2017.1360266.

González-Rivera, Christian. n.d. "Building the Workforce of the Future." Center for an Urban Future (CUF). Accessed March 17, 2018. https://nycfuture.org/research/building-the-workforce-of-the-future.

Greenberg, Miriam, and Penny Lewis. n.d. "The City Is the Factory: New Solidarities and Spatial Strategies in an Urban Age." Accessed March 17, 2018. https://books.google.com/books?id=3wEoDwAAQBAJ&pg=PT171&lpg=PT171&dq=underused+industrial+space+new+york&source=bl&ots=uiG-V3dUumE&sig=-1Qc6N_BQ3INjPg8gDPjWULKQY0&hl=en&sa=X&ved=0ahUKEwiZ-uO5mP7YAhVHrFMKHbtBDpYQ6AEIOzAB#v=onepage&q=underused%20industrial%20space%20new%20york&f=false.

"How Have Recent Rezonings Affected the City's Ability to Grow?" 2010. Furman Center. 2010. http://furmancenter.org/files/publications/Rezonings_Furman_Center_Policy_Brief_March_2010.pdf.

Hum, Tarry. 2014. Making a Global Immigrant Neighborhood. Temple University Press.

"Industrial." 2009. NYCEDC. 2009. https://www.nycedc.com/industry/industrial.

"Industrial Retention." n.d. UPROSE. Accessed March 17, 2018. https://www.uprose.org/industrial-retention.

"Innovation Lab - Industry City." 2018. Industry City. 2018. https://industrycity.com/innovation-lab/.

———. n.d. Accessed March 17, 2018. https://industrycity.com/innovation-lab/.

Kantor, Paul, and Dennis R Judd. 2013. American Urban Politics in a Global Age. Pearson Education, Inc.

Karagianis, Liz. n.d. "Kendall Square: A Global Center for Innovation Grows Alongside MIT." MIT Spectrum. Accessed March 17, 2018. https://spectrum.mit.edu/spring-2015/kendall-square-a-global-center-for-innovation-grows-alongside-mit/.

Katz, Bruce, and Julie Wagner. n.d. "The Rise of Innovation Districts: A New Geography of Innovation in America." Brookings Institution. Accessed March 17, 2018. https://www.brookings.edu/wp-content/uploads/2016/07/InnovationDistricts1.pdf.

Kerr, Clark. 1983. The Future of Industrial Societies. Harvard College.

Meck, Stuart. n.d. Growing Smart Legislative Guidebook: Model Statutes for Planning and the Management of Change.

Miraftab. 2011. "Emergent Transnational Spaces: Meat, Sweat and Global (Re)Production in the Heartland." https://doi.org/10.1111/j.1468-2427.2011.01070.x

Mohai, Paul, and Saha. n.d. “Which Came First, People or Pollution? Assessing the Disparate Siting and Post-Siting Demographic Change Hypotheses of Environmental Injustice.” Accessed March 17, 2018. http://iopscience.iop.org/article/10.1088/1748-9326/10/11/115008/pdf.

“Our Strategy.” 2018. NYC Career Pathways. 2018. http://www1.nyc.gov/site/careerpathways/strategy/our-strategy.page.

Pierre, Jeffrey. n.d. “Report Finds Homeownership ‘unattainable’ for Most Residents in Little Haiti.” Miami Herald. Accessed March 17, 2018. http://www.miamiherald.com/news/local/community/miami-dade/midtown/article52519785.html.

Piore, Michael Joseph. 1973. “The Role of Immigration in Industrial Growth: A Case Study of the Origins and Character of Puerto Rican Migration to Boston.” https://dspace.mit.edu/bitstream/handle/1721.1/64025/roleofimmigratio00pior.pdf?sequence=1.

Prevost, Lisa. 2016. “For Boston Seaport, G.E. Was Just a Start.” The New York Times, June 14, 2016, sec. Commercial Real Estate. https://www.nytimes.com/2016/06/15/realestate/commercial/for-boston-seaport-ge-was-just-a-start.html.

“Puerto Ricans in Boston.” 2017. Boston Planning & Development Agency Research Division. http://www.bostonplans.org/getattachment/e939db2d-4ad1-410a-baf9-2a05e3e60024.

Ruben. 2009. “The New Factory: In Brooklyn, an Industrial Artists’ Colony.” ARTmostfierce (blog). January 15, 2009. http://artmostfierce.blogspot.com/2009/01/new-factory-in-brooklyn-industrial.html.

Ruiz, Cynthia. 2013. Interview by Tarry Hum.

Saegert, Susan. 2006. “Building Civic Capacity in Urban Neighborhoods: An Empirically Grounded Anatomy” Journal of Urban Affairs 28 (3). http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9906.2006.00292.x/abstract.

Santore, John. 2016. “Sunset Park Rents Up 24% From 1990: Study.” Sunset Park, NY Patch. May 11, 2016. https://patch.com/new-york/sunset-park/study-average-sunset-park-rents-24-percent-1990-2014-0.

Sassen, Saskia. 1996. “Whose City Is It? Globalization and the Formation of New Claims.” 1996. http://homepage.univie.ac.at/fanny.mueller-uri/php/inequalities/wp-content/uploads/2013/10/Sassen-Saskia-Whose-City-Is-It-Globalization-and-the-Formation-of-New-Claims.pdf.

Saxenian, AnnaLee. 1999. “Silicon Valley’s New Immigrant Entrepreneurs.” 1999. http://www.ppic.org/content/pubs/report/R_699ASR.pdf.

Schrock, Greg, Ellen M. Bassett, and Jamaal Green. 2015. “Pursuing Equity and Justice in a Changing Climate: Assessing Equity in Local Climate and Sustainability Plans in U.S. Cities.” Journal of Planning Education and Research 35 (3): 282–95. https://doi.org/10.1177/0739456X15580022.

Sheivachman, Andrew. n.d. “How Gentrification Powers New York City’s Tourism Industry.” Accessed March 17, 2018. https://skift.com/new-york-city-tourism-and-gentrification/.

Steinmetz, Christine, and Christina Papadopoulos. 2011. “The Complexity of the Sexual City: Defining the Sex Industry Premise.” 2011. http://soac.fbe.unsw.edu.au/2011/papers/SOAC2011_0219_final.pdf.

“Sunset Park Waterfront Vision Plan.” 2009. Sunset Park Working Group. 2009. https://www.nycedc.com/sites/default/files/filemanager/Resources/Studies/sunset_park_waterfront_vision_plan.pdf.

“Sunset Park Neighborhood Profile.” n.d. Furman Center. Accessed March 17, 2018. http://furmancenter.org/neighborhoods/view/sunset-park.

Thukral, Juhu, Melissa Ditmore, and Alexandra Murphy. n.d. “Behind Closed Doors: An Analysis of Indoor Sex Work in New York City.” Urban Justice Center. Accessed March 17, 2018. https://swp.urbanjustice.org/sites/default/files/BehindClosedDoors.pdf.

Vey, Jennifer. n.d. “Can Philadelphia’s Innovation District Make Room For Everyone?” CityLab. Accessed March 17, 2018. https://www.citylab.com/equity/2017/06/does-innovation-equal-gentrification/529839/.

Visgilio, Gerald Robert, and Diana M Whitelaw. 2003. Our Backyard: A Quest for Environmental Justice.

Warerkar, Tanay. 2017. “Rezoning of Sunset Park’s Industry City Complex Is on the Horizon.” Curbed NY. October 23, 2017. https://ny.curbed.com/2017/10/23/16524818/industry-city-sunset-park-rezoning.

———. n.d. “Sunset Park Deemed One of America’s ‘Coolest’ Neighborhoods - Curbed NY.” Curbed NY. Accessed March 17, 2018. https://ny.curbed.com/2016/6/29/12058206/sunset-park-coolest-neighborhoods-america-brooklyn-nyc.

“Zoning Districts & Tools : Manufacturing Districts.” n.d. NYC Department of City Planning. Accessed March 18, 2018. https://www1.nyc.gov/site/planning/zoning/districts-tools/m1.page.

XIII. APPENDIX

Appendix A. List of Contacted Interviews

Individual Title	Areas of Interest
Attorney	Immigration Law
Supervising Attorney	Labor Law
Artist and Tenant of Industry City #1	Art, Industry City development
Artist and Tenant of Industry City #2	Art, Industry City development
Professor	Innovation Districts, Real Estate Development
Professor	Neighborhood resiliency
Sunset Park neighborhood resident #1	Gentrification, overall perspective
Sunset Park neighborhood resident #2	Gentrification, overall perspective
Climate Justice Neighborhood Organizer	Community development, immigration, climate justice

Appendix B. Industry City Tenant Directory (as of March 2018)

Creative & Arts

ALEYA LEHMANN
ANDREA GEYER
ANDREW JOHN CORBETT III
ANTON YOUNG
APT GLOBAL SALES INC
ARCANGEL STUDIO INC
ARTWADE LLC
ART OF YOUR MIND
BELLA & ESTHER NISANOVA
BEN STERLING
BRENTON CARTER & RANDY NG
CARLOS RUIZ & MICHAEL MARIFONE
CALEB CONSIDINE
CARA V ENTELES
CAROL DRONSFIELD
CARRIE YAMAOKA
CARSON FOX
CF STUDIO INC
CHLOE GIFKIN
CHRISTOPHE POURNY STUDIO
CLARITY HAYNES
DARINA KARPOV
DAVID DATUNASHVILI
DAVID GOLAY
DEAN F. RUSSO
DEDALUS FOUNDATION INC
DIANNA CARLIN
DIRK SKREBER
DOUGLAS ASHFORD
DRAX GROUP INC
ELIZABETH ALWIN
ELIZABETH GILFILEN
ENNA, INC
ERIK SAXON
ERIN HUDAK
ERIN JULIANA
ERNEST PORCELLI
EVANGELINE
EVERGREENE
EYEBEAM ATELIER
FARO WORLD, INC
FREDERICK BENDHEIM STUDIO
GABRIEL KOREN
GENNADI &LUDMILLE BARBUSH
HENRY FINKELSTEIN
HERVE LAFOND
HILL & SCHILIRO
HUAN LING CHEN
J&M NEW YORK INC
JAMES PETROZZELLO
JEAN WOLFF STUDIO
JENNIFER COATES
JENNY HANKWITZ
JEREMY COUILLARD
JOHN DESCARFINO
JOHN KALYMNIOS
JOSHUA HART
JOYOUS ACTION
JUDITH MILLS
KATE MATHIS PHOTOGRAPHY, INC
KATHERINE MERZ
KENT & STOREY
KEVIN J STAHL
LAWRENCE SILVER
LOUDONB STUDIO
MANI NILCHIANI
MATT CONNORS
MCCONNELL & BORROW, INC.
MEL A. PYNN
MELEKO MOKGOSI
MICHAEL BAUER
MOLIS & ROSEN
NY LIGHT PRODUCTIONS
OPERA GALLERY INC
PAUL FAGERSKIOLD
PHONG BUI
PRO-GRAPHIX
RACHEL OWENS
RACHEL YOUENS
REID VETO
RICHARD LEWIS & JUDITH HALASZ
RICHARD STAUB
RYAN SULLIVAN
SANGRAM MAJUNDAR
SARAH PETERS
SEBASTIAN ERRAZURIZ
SELENA KIMBALL
SHAWN DULANEY
SNOBMADE
STEPHEN WESTFALL & MICHEL ABRAMOWIZ
SUNSET STUDIOS
TERRY KNICKERBOCKER STUDIO
THE GIL STUDIO
TONY OURSLER LLC
TRAVESS SMALLEY
VAN ZEE SIGN CO.
VINCENT CINIGLIO

Design

ANDREW HUNT
ARBOR GENTRY LLC
ARCH BOX
B&A DESIGN PLAZA
BARDO INDUSTRIES, LLC
BEN'S GARDEN LLC
BIZDESIGNS LLC
BOULER PFLUGER ARCHITECTS P.C.
BRANDED BOAST LLC
BRAUNA ROSEN
CORAL AND TUSK, LLC
CUSTOMIZED ELITE SOCKS
DANIELLE TROFE DESIGN
DAVID STARK
ELIZABETH SHELTON
FACTIONED
FFCM NYC
FLAVOR PAPER
FORCE MAJEURE
FREECELL ARCHITECTURE, LLC
FREKIFOPE LLC
GAMMA & BROSS
GAUGE NYC
HARDEN + VAN ARNAM ARCHITECTURE
HELLO LIVING
HIGHVIEW CREATIONS
ILUMINATE PRODUCTIONS LLC
INVISIBLE LIGHT NETWORK
JUNE AND JANUARY
LINDA & HARRIET LLC
LINDSEY ADELMAN STUDIO
LUKE BULMAN
MARIA CECILIA ZANETTA
MARYANNE MOODIE
MASON & MORRIS, INC.
MOD PRODUCTS LLC
MOTVITSKY™
MR. BODDINGTON'S STUDIO
PEREZ ARCHITECTURE
PSE AUDIO VISUAL CORP
REBECCA ATWOOD DESIGNS
RED ROSE AND LAVENDER
RICH BRILLIANT WILLING
SHEEP STONE
STOREFRONT FOR ARCHITECTURE
STUDIO A+I ARCHITECTURE
STUDIO EIS
TERESSA FOGLIA
THE CHS GROUP
THE FUTURE PERFECT
THE WEDDING DRESSER
TRACY JAIN
TWI WATCHES LLC
VESNA BRICELJ
VINCENT MARTINEAU
VISIONARY MEDIA INC
WAYNE BARRETT
WEST ELM
WILDFLOWER + CI=O., INC,
WRAP LIFE LLC
YUMMY COLOURS LLC

Media

ABELCINE
AJAX UNION LLC
ALAIN ALDINOR
ANDRES HERNDON
BIG ORANGE SHEEP INC
BROOK BROVAZ CORP
BROOKLYN NETS
BROOKLYN RAIL
BUST MAGAZINE
COLOR CARD STUDIOS
EDWARD MARTE
FILMRISE
FOTO FOLIO INC
FREQUENCY PRODUCTIONS
GO CHARITY
GURVITCH IMAGES
HARBOR
JASON BRANDENBERG
JASPER PRODUCTIONS LLC
JMB STUDIOS LLC
JOHNSON SARKISSIAN INC
LE IMAGE
OPTICAL COMMUNICATIONS GROUP
RANDAZZO BLAU INC
SACRED JEWELS
SANDEN WOLFF INC
SK VISUAL
THOMAS E. OWEN
TIME, INC.
WORLD MUSIC PROD INC

Government Agency, Office and Nonprofit

BALTIC STREET AEH INC
DRESS FOR SUCCESS WORLDWIDE
EVELYN DOUGLIN CENTER (THRIVE NETWORK)
HEAVENS HANDS COMMUNITY SERVICES
JEWISH HOME LIFECARE, INC.
KOPELEVICH & FELDSHEROVA PC
NEW YORK STATE LIQUIDATION BUREAU
NON-TRADITIONAL EMPLOYMENT FOR WOMEN
NYC HUMAN RESOURCES ADMINISTRATION
NYC DEPARTMENT OF FINANCE
NYC DEPARTMENT OF PROBATION
NYC DEPARTMENT OF RECORDS & INFO SVCS
NYC LAW DEPARTMENT
NYSARC INC.
THE BRUCE HIGH QUALITY FOUNDATION
WORLD CITIZEN FOUNDATION

Production / Manufacturing

ABSOLUTE WOODWORK LLC
ALEXANDRA FERGUSON
ALEXIS BITTAR
ALPHA DOMINICHE INC
ANATOLI'S RESTORATIONS, INC.
APPLE DIRECT MAIL SERVICE LTD
ARTHUR B. VIERKANT
ARTHUR R. JOHNSON INC.
ASTON LEATHER INC
ATOMIC WOODWORKING INC
BAOBAB FRAMES & ART SERVICES, INC.
BAUBLE BAR
BLUE MARBLE ICE CREAM
BMGM
BRICKSHOP AUDIO
BROOKLYN CANDLE STUDIO
BROOKLYN BATTERY WORKS LLC
BROOKLYN BINDING INC
BROOKLYN BRINE
BY BOE LTD.
C&F FABRICATORS
CERIDEVEN BAMFORD & BILLY RAY MORGAN
CHAPAS TEXTILES
CEJ DESIGN
COLSONS PASTRIES LLC
DOMINIQUE PARAISON
DONALD GATANIS FRAMING
DOUBLE TAKE FASHIONS
DREAM WELL WINES, INC.
EGG COLLECTIVE
ELITE DÉCOR
ELIZABETH COLLINS
ENDS MEAT
F&G CUTTING INC
FASHION QUEEN MGNT INC
FIST INC
FODERA GUITAR PARTNERS LLC
FRIEDA ROTHMAN
HANA KITCHENS
HMO BEVERAGE CORP
I.AM.MALIAMILLS, LLC
INDUSTRY CITY DISTILLERY
INTEGRATED LUMINOSITY, LLC
INWINDOW OUTDOOR LLC
ITO EN
IVORY BUILD
J&M NEW YORK INC
J&M SPORTSWEAR INC
KAREN BODY BEAUTIFUL
KATZ & NELSON INC
KFX TECHNOLOGY
KINGS SPECIALTY INDUSTRIES
KNOT & BOW LLC
LAK DESIGNS INC
LI-LAC CHOCOLATES
LIDDABIT SWEETS, LLC
LIGHTS UP!
MASON WOODWORKS
MATERIAL WRLD
MATTHEW STEEL
MERIT SEWING, INC
MJK ENTERPRISES LLC
NY POPULAR INC
ONE GIRL COOKIES
OWL PLASTICS INC
PARM COMMISSARY LLC
PROOF OF CONCEPT, LLC
PUBLISHERS CIRC. FULFILL. INC
R.H. GUEST
RAG & BONE INDUSTRIES LLC
ROLL & HILL INC
SCHUCHART/DOW
SCW, INCORPORATED
SKYMARK FASHIONS
SNACK INNOVATIONS INC
SOHO LETTER PRESS
SPARK WORKSHOP INC
STEVE & ANDY'S ORGANICS
SUNERIS INC.
TNC FASHIONS INC
TUMBADOR
TWISTED LILLY
UNIQUE FURNITURE 4U INC
UP TRANSPORT
UTRECHT LINENS (BLICK ARTS)

VANESSA PHILLIPS
VEGAN REGRUB, LLC
VIRGINIA DARE EXTRACT CO. IN
WALTER GOODMAN
WOODLAND TRADING

Retail

ABC CARPET & HOME
AVOCADERIA
BANGKOK BAR
BOIL BOIL RAMEN
BRINE AND DINE
BURGER JOINT
COLSONS PATISSERIE
DESIGN WITHIN REACH
EJEN KOREAN COMFORT FOOD
ENDS MEAT
EXTRACTION LAB
FASHION CHEF PATISSERIE
FILAMENT AT THE LANDING
HOMETOWN BAR-B-QUE (COMING SOON)
KOTTI BERLINER DONER KEBAB
MITCHELL GOLD + BOB WILLIAMS HOME
NINJA BUBBLE TEA LLC
TABLE 87
TACO MIX
THE BROOKLYN KITCHEN
THE FRYING PAN WHEELHOUSE
U.S. POSTAL SERVICE
IC store by WantedDesign
YASO TANGBAO

Technology

AEROBO
AMERIGROUP NEW YORK LLC
ASSEMBLED BRANDS MANUFACTURING
AUDIO VISUAL PRESERVATION SOLUTIONS, INC
BRAIN CHILD
CALL9
CAR2GO
CHAOS COMMERCE
COINSPACE
COLOGUARD ENT SOLUTIONS
CONCEPT AUTO LEASING
CROWNTV
DOOB USA INC
FIBER OPOTIC ABOVE NET COMMUNICATIONS INC
GPK SYSTEMS INC
IMPOSSIBLE AMERICA CORP
IRMAT PHARMACY
KEAP
M&R CPA'S
MEDIA THREE CORP
MEDICAL TRANS MGT
NARATIV INC.
NYU LANGONE
OMBLIGO
PHARMA HOLDINGS OF NY LLC
PILLPACK
SAFECO RISK CONTROL, INC
SCULTOGRAPHICZ
TELEPORT COMMUNICATIONS
WIRELESSJACK.COM INC

Warehouse

AIT TRIMMINGS, INC
ALLSTATE MEDICAL
BROOKLYN MUSEUM
BUSH OFFICE PRODUCTS CORP.
DEALER STORAGE CORP
FIRST, LAST & ALWAYS INC
IM FOOD PACKAGING
INTERNATIONAL DIST INC
LINEN STORE
MAN LING INC
MAXIMUM STORAGE
MS INVENTORY SOLUTIONS LLC
MTA
MUSEUM OF THE CITY OF NY
MYSTIQUE HOME FASHION INC.
NATALIA IMPORT LLC
OMAR MUNIZ
STRAND BOOKSTORE
SUPERIOR & YOUNG TRADING INC
THAT'S MY GIRL
THE NEW BROOKLYN
TONERQUEST INC
TOP FASHION OF NY
ZOOMERS INC.

Appendix C:
Most Active Anti-Gentrification and Immigrant Based Coalitions in Sunset Park (2018)

Name	Quoted Mission Statement
UPROSE	"Founded in 1966, UPROSE is Brooklyn's oldest Latino community-based organization."
The Brooklyn Anti-Gentrification Network	"The Brooklyn Anti-Gentrification Network (BAN) is a people of color-led, mass-based coalition of tenants, homeowners, block associations, anti-police brutality groups, legal and grassroots organizations working together to end the rampant gentrification and displacement of low to middle income residents of Brooklyn, New York."
Occupy Sunset Park	"The Occupy Wall Street movement is about all of us: Latin@s, Asian Americans, immigrants, people of color and hard working families. Together we are the 99 percent who are being robbed and cheated by the richest 1 percent of the population."
Protect Our Working Waterfront Alliance	"Protect Our Working Waterfront Alliance (POWWA) is a broad coalition of residents, businesses, labor, housing advocates, faith leaders, and others. All are committed to protecting the industrial character of the Sunset Park waterfront to: protect and expand career-track manufacturing jobs, protect working class residents from displacement, and develop for climate resilience."
Atlas:DIY	"Atlas: DIY, is creating a world powered by the joy, freedom, and endless possibility of all youth everywhere. We do this by working with immigrant youth to unlock access to legal services, learning opportunities, and leadership development, in a space owned, run and governed by the youth themselves. Atlas: DIY is a center for youth between 14-24 in Sunset Park, Brooklyn."
Center for Family Life	"Sunset Park is a densely populated, low-income neighborhood with a large percentage of recent immigrants. Community residents have limited access to the resources needed to grow and thrive. Within this context, we offer a comprehensive range of programs and services that address families' needs from every angle. These include family counseling and neighborhood-based foster care; cultural, educational and recreational programs at neighborhood public schools, adult and youth employment programs; and an emergency storefront for food and advocacy."
Womankind	"Womankind is an expert in serving Asian women and their children. Our services are multilingual and culturally-responsive. But, services are equally valuable for the many non-Asians, the men and boys, and members of the LGBTQ community that we serve. Assistance is offered through all stages of life, from childhood to elder years. For those whose lives have been impacted by violence, Womankind helps them move forward from isolation to connectedness, from surviving to thriving."
Mixteca Organization, Inc.	"Mixteca Organization Inc. is a community-based organization located in Sunset Park. It was established in 2000 by a group of concerned community members to address critical needs in health, education, social and legal issues facing the burgeoning Mexican and Latin American immigrant community in Brooklyn."
Asian Americans for Equality	Asian Americans for Equality (AAFE) is a non-profit organization dedicated to enriching the lives of Asian Americans and all of those in need. Founded in 1974 to advocate for equal rights, AAFE has transformed in the past four decades to become one of New York's preeminent housing, social service and community development organizations. AAFE is committed to preserving affordable housing throughout New York and to providing new opportunities for the city's diverse immigrant communities.